

NATURE'S GYM, ADVENTURE, TRAVEL, NUTRITION

OutdoorFitness

WWW.OUTDOORFITNESSMAG.COM

**NATURALLY
STRONGER
FITTER
FASTER**

RUNNING SPECIAL

» **ULTRA RUNNERS**

DEAN KARNAZES
& NIKKI KIMBALL

» **YOUR PB
MARATHON PLAN**

» **3 STEPS TO
RUN BETTER**

» **ULTRA FIORD
SURVIVAL RACE**



**WHY YOU
SHOULD
STRENGTH
TRAIN**
TO BEAT INJURY
& YOUR PBS

12
**WAYS TO
GREAT
CYCLING**
WITH LIZZIE
ARMITSTEAD

**TOP
TRAINING
APPS**

**WHY EXERCISE
BEATS DIETING**



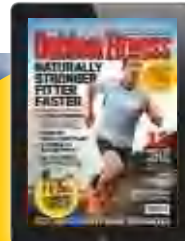
PLUS CROSS-COUNTRY SKIING, OPTIMUM R&R



GET **OUT** AND **STAY OUT**
WHATEVER THE WEATHER

WE ENABLE YOU TO GET OUT AND EXPLORE WITH OUR AWARD
WINNING RANGE OF WATERPROOF SOCKS, GLOVES AND HATS.
GET OUT AND STAY OUT WHATEVER THE WEATHER WITH SEALSKINZ.

AVAILABLE FROM ALL LEADING OUTDOOR SHOPS AND SEALSKINZ.COM



**OUTDOOR
FITNESS
NOW ON
THE iPad!**



Welcome January



Running a marathon is a rite of passage for many of us. It's something to boast about on our life's CV. How fast? That's the question you'll get asked the most when you expose your marathoner

status to others. Are you a sub 4, sub 3.5 or sub 3-hour runner? We've chosen these marathon times as we believe these are the ones you should be aiming to achieve. And to help you do this we've got the first instalment in our "Run the ultimate marathon" training plan in this issue. Over this and the next two issues our experts will provide the structure and the knowledge needed to achieve those sub 4, sub 3.5 or sub 3-hour timings.

January's magazine is very much a running special, after all it's the simplest way to get outdoors and get fit. We've packed our pages full

of features and interviews that will motivate and inspire. (Note to cyclists we've not forgotten you!)

Where do I start? Well, the interviews with Nikki Kimball and Dean Karnazes are good places. Two of the greatest runners of all-time tell you what keeps them ticking and why they are the runners they are, see pages 42 and 46.

Then we have an ultimate challenge, an ultra that was on Matt Maynard's bucket list. You may find yourself wanting that something extra after you've run a couple of marathons and an ultra could be your next challenge. Maynard ran through the Patagonian fiord lands to complete one of the toughest ultras there is. His account is breathtaking in so many ways, see page 32. (By the way over further issues our marathon plan will evolve into training for an ultra).

Eric Orton is an apostle of natural running, his methods have reached the global running

community (through his involvement in the book *Born to Run*). On page 52, he explains to us how we can improve our running, literally from the ground up. His methods are designed to enable injury free, faster and exciting running.

At this time of the year excitement may be a word that resonates with getting out and getting fit. You've got the new trainers and kit from Christmas and you've got the clarity and focus that the New Year ahead brings with its resolutions. But we want you to have that same motivation and feeling of excitement in six months' time... in six years' time. Outdoor training is the best way to fuel and maintain that excitement and motivation. *Outdoor Fitness* will be there to push, prod and prime you for a lifetime of fitness and freedom that only naturally-based outdoor training can provide.

JOHN SHEPHERD Editor

HEROES OF THE MONTH



MATT MAYNARD. Our man fails to become animal fodder or swallowed up by a crevice, but he does have to survive mud, wet and snow as he takes on the Ultra Fiord. **P32.**



KARNAZES & KIMBALL. Ultra running's heroes give us into an insight into their worlds. Karnazes has run 350 miles continuously and Kimball has won both the UTMB and MdS... **P42 & 46.**



YOU! For this issue we've given over the third spot to you, our readers. Get out and make 2016 a great and heroic year for you whatever your fitness goals and motivation. Who knows one of you could be in this spot next year!

Contents January

STARTLINE

- 006 **The Great Outdoors**
- 012 **STARTLINE**
Why dieting doesn't work
- 014 **NEW PRODUCTS**
Laugh in the face of winter
- 016 **5 Things we learnt**
from Alison Mead blind triathlete
- 017 **Sports science**
Dine back from disaster
- 018 **Endurance Cook**
DIY Protein Shake
- 020 **Summit for the Weekend**
Roseberry Topping
- 024 **Featured Event**
Santa Dash



ON THE COVER

- 012 **Exercise beats dieting**
- 032 **Ultra Fiord**
- 042 **Nikki Kimball**
- 046 **Dean Karnazes**
- 052 **Better Running**
- 056 **Strength Training**
- 064 **Great Cycling**
- 068 **Training Apps**



CHALLENGES AND HEROES

- 028 **Birkebeinerrennet**
The world's biggest ski race
- 032 **Ultra Fiord**
The survival race
- 038 **Take the High Road**
Etape Caledonia
- 042 **Nikki Kimball**
- 046 **Dean Karnazes**

88



FOOD

- 084 **Carbohydrates**
Loads of advice
- 088 **24-Hour food**
Day to night event nutrition
- 092 **R&R** Maximise it!

096



GEAR

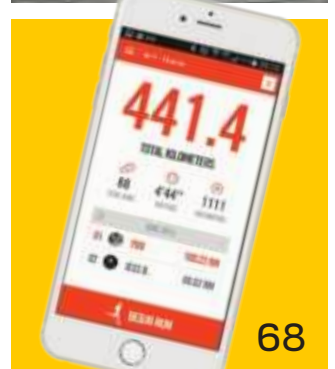
- 096 **Skis**
- 098 **Ski kit**
- 100 **Running tights**
- 102 **Cycling bibtights**
- 104 **Long-term tests**



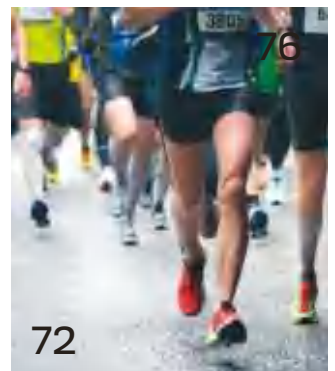
42



64



68



72

TRAIN

- 052 Run free**
Eric Orton interview
- 056 Strengthen your Endurance**
- 060 Experience Matters**
- 064 12 Cycling Fixes**
- 068 Tech Savvy**
Running apps
- 072 Ultimate Marathon plan**
Sub 4, 3.5 & 3-hour plans
- 077 Training Diaries**
- 078 Ask the Experts**
- 106 Reader Challenge**
Dr Paul Everden





THE GREAT OUTDOORS

Tweak the dragon's tail and quell its fire as you tackle the Dragon Duathlon.

Picture Anthony Pease

ENTER THE DRAGON

It's hard to imagine, we know, but have you ever reached the finish line of a duathlon and wished the race would just go on and on? If so then a new event might satisfy your insatiable appetite for more.

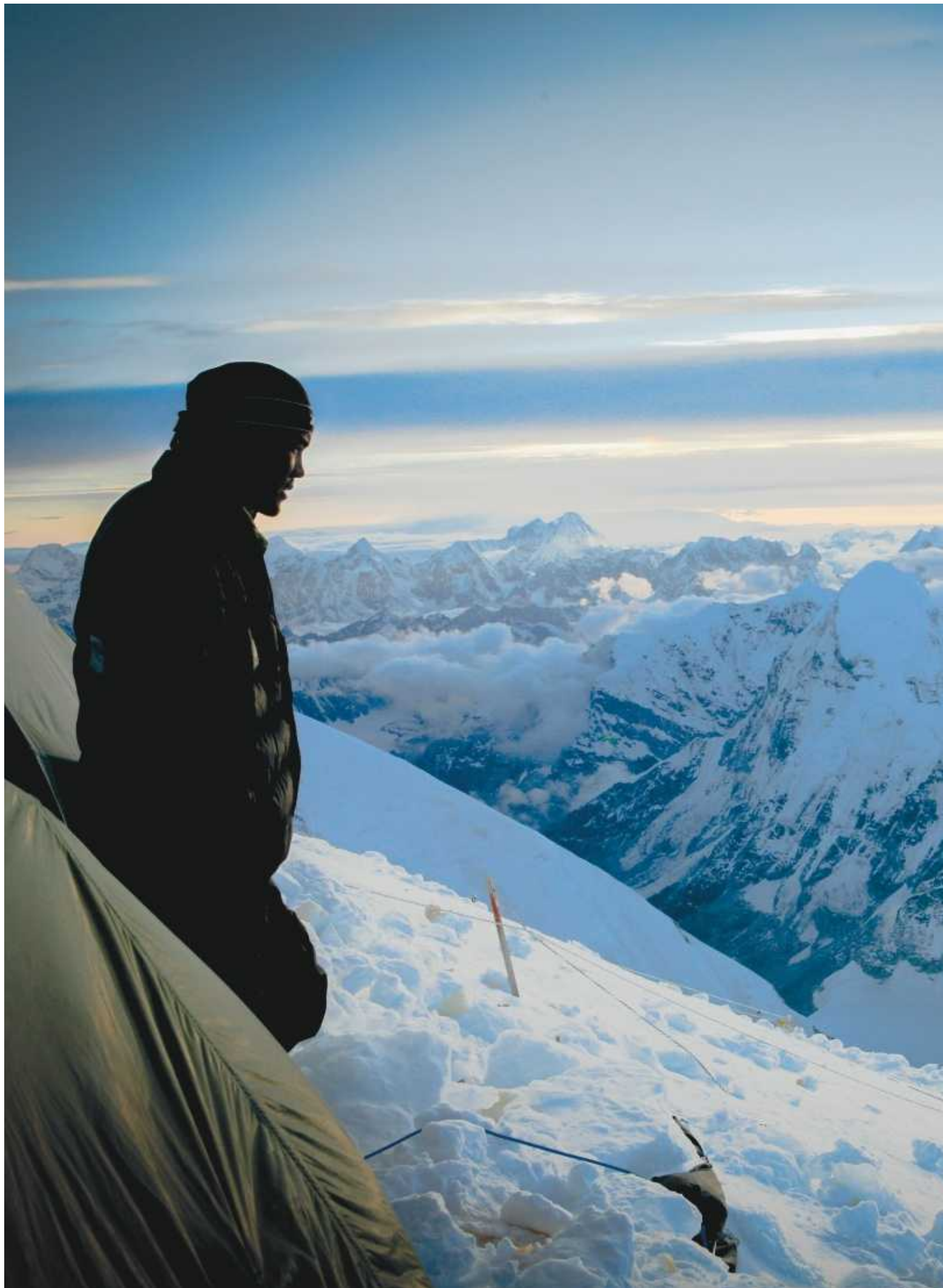
The Dragon Duathlon is a seven-stage race along the length of Wales by foot and bike, starting on Anglesey and finishing in Cardiff.

In-between, competitors will run off-road and cycle on road, covering a total of 290km. The running sections cross three of Wales's most iconic mountain peaks, Snowdon and Cader Idris in Snowdonia and Pen y Fan in the Brecon Beacons.

Organiser Matthew Page reckons the challenge for most participants will be to complete the entire journey non-stop in under 24 hours, although he says faster riders could breach the finishing tape in 15 hours.

All racers will have to navigate themselves via GPS devices, using routes provided by the race, and will need a back-up team to ferry the bike, kit and supplies between sections.

More info: The Dragon Duathlon will take place on 18th June 2016. Entry costs £145 for individuals and £175 for a relay pair. See dragonduathlon.com





THE GREAT OUTDOORS

**They deserve full
respect – the Sherpas
of Chomolungma
(Everest)**

Picture Jennifer Peedom

HIGH LIFE

"Western people approach it as a physical challenge, to see how close they can get to death. Over here, we climb [the] mountain, but it's a holy place."

This analysis of the ascent of Everest, comes from a Sherpa, one of the Himalayan people living on the borders of Nepal and Tibet, a community renowned for its highly-skilled, high-altitude workers. Relations between Sherpas and western climbers have been deteriorating in recent years, due to an imbalance of power, risk, resource and respect for the tallest mountain on Earth.

In 2013 matters reached such a nadir that a group of Sherpas stoned three mountaineers whom they considered to be disrespectful. It was a far cry from the partnership between Edmund Hillary and Sherpa Tenzing Norgay, the pair who shared the glory of being the first people to reach the highest place on the planet, and who never revealed which of them had first set foot on the top.

Setting out to explore the role and life of the Sherpa on Everest, film maker Jennifer Peedom intended to film the 2014 climbing season on the mountain. On 18th April 2014, however, her documentary took a dramatic twist when a 14,000 ton block of ice crashed down onto the climbing route through the Khumbu Icefall, killing 16 Sherpas.

Her cameras were there to record the tragedy and more importantly its aftermath as tensions between tour operators, mountaineers and Sherpas rose over the most appropriate response to the disaster.

The result is *Sherpa*, an award-winning documentary that tells the story of how, in the face of fierce opposition, the Sherpas united in their grief and anger to reclaim the mountain they call Chomolungma.

More info: *Sherpa* is in cinemas from 18th December and will broadcast globally on the Discovery Channel in early 2016, sherpafilm.com





THE GREAT OUTDOORS

Cool as ice – photographer
Tim Kemple snaps
dramatic landscapes
whilst dealing with danger

Picture Tim Kemple

CAVES, CREVASSES AND ICE CLIMBING

If you've ever seen a photograph of an extreme outdoor challenge that has taken your breath away, there's a good chance that Tim Kemple captured the image. From climbing to jungle marathons, kayaking to slacklining and even wingsuit flying, Kemple is responsible for some of the most arresting images ever committed to memory card.

His latest project was an expedition to Iceland (pictured) where he set out with the goal of ice climbing icebergs, ice caves and an ice crevasse. It's a treacherous landscape, fraught with danger, but the photographic opportunities are spectacular.

"The trip was a creative challenge for the whole team as it's very unusual to climb the extremely dangerous and tough ice conditions that we encountered," said Kemple. "But we had to attempt it because adventure is about embracing uncertainty and pushing yourself beyond your comfort zone."

A short video, *Climbing Ice: The Iceland Trifecta*, exposes the challenges that Kemple and his climbers faced and how he overcame them, a behind-the-scenes glimpse at the world of a unique photographer.

More info: Watch *Climbing Ice: The Iceland Trifecta* at youtu.be/79s5BD0301o

STARTLINE

ON YOUR MARKS FOR A BRILLIANT MONTH IN THE OUTDOORS





14
**NEW YEAR,
NEW PRODUCTS**
Boost your
performance



18
**DIY
NUTRITION**
Make your own
protein shake



24
BAD SANTA
Santas strip
at 10k run!

Why dieting doesn't work

New studies show that cutting back on calories slows your body's metabolism and makes it easier for it to lay down fat. So burn kilos with some outdoor exercise!

IF THE FESTIVE PERIOD is likely to leave you reaching for trousers with an elasticated waist, and the New Year comes with a weight loss resolution, beware going on a diet to achieve your goals.

New scientific studies reveal how a significant cut in your calorific intake can lead to post-diet weight gain.

While cutting back on calories does lead to initial weight loss, it also reduces your body's energy expenditure, changes your muscle composition from fast to slow twitch, and makes it easier for your body to lay down fat when you resume a normal diet.

Research published in the *American Journal of Clinical Nutrition* tracked the body composition of 32 men over a six-week period. For the first week they ate 50% more than their energy needs,

followed by three weeks at half their energy needs, and finished with a fortnight at 50% more than their energy needs.

The results showed that the period of half rations led to 6kgs of weight loss, but not all of this was fat. In fact their fat-free mass, which includes skeletal muscle, liver and kidneys decreased more sharply than fat. The harsh diet also led to a significant reduction in resting energy expenditure of -266 kcal/day, a 14% fall in heart rate and a 22% decline in the calories burnt when walking. Basically, this suggests that under reduced calorific dietary conditions the body closes down its calorie-burning functions to conserve energy, making it harder to lose weight.

These findings were echoed by a study conducted by Dutch scientists at the University of

Maastricht and published in *Nutrition & Metabolism*.

This also found that the body adapts to energy restriction with a decrease in resting and exercise-induced energy expenditure, both during and after the diet.

After eight weeks on a low calorie diet, a trial group of 48 men and women's total energy expenditure had slipped by an average of 17.5%, including a decline of 10.8% at rest and a massive 22.8% fall in activity-induced energy expenditure.

Meanwhile, in the *Frontiers of Physiology*, researchers who semi-starved then re-fed rats found that fat storage accelerated after the period of restricted diet. In effect, muscles stopped burning as much energy.

"These energy-sparing effects persist during weight recovery and contribute to catch-up fat," said the scientists.

So if you're looking to drop a few pounds, the consensus suggests a better long-term strategy is to burn fat through exercise rather than diet your way to weight loss.

DAFT DIETS

Often backed by celebrities, here are five of the craziest fad diets to gain traction last year, according to the British Dietetic Association. The UK's largest organisation of food and nutrition professionals comes across a huge range of weird and wacky diets and diet claims, which can range from bad to downright dangerous. Sian Porter, consultant dietician says:

"Some people will believe almost anything and anyone when it comes to nutrition, food and diet."

"The simple fact is, there is no 'wonder diet' just as there are no 'super foods' and no one diet fits all. What is super is the way many marketing machines coin certain phrases to make you think there is some magic wand approach to losing weight.

"Maybe it's not as exciting but the truth is if you do want to lose some weight do it by eating a healthy, balanced diet that you can stick to, watch your portion sizes and be physically active. Think of it as a marathon approach to achieving your goals, as opposed to a sprint approach. Aim to make permanent changes to your diet and lifestyle that are sustainable for you in the long-term."

■ NO SUGAR DIET

What's it all about? The Sugar Free Diet excludes all types of sugar and often carbohydrates.
BDA Verdict: Not such a sweet deal! Cutting down on free sugars, reducing the amount of sugar you add, and consuming fewer products containing added sugar is positive. However, some versions of the No Sugar Diet promote cutting out all sugar which is not only almost impossible, but would mean eliminating foods like vegetables, fruit, dairy, and nuts – leading to a less than healthy diet. Be aware that these plans can recommend just as sugary alternates such as maple syrup or honey, which is a huge contradiction.

■ THE ALL-KALE AND CHEWING GUM DIET

What's it all about? All you can eat is kale salad and chewing gum.
BDA Verdict: Kale-amity! This diet is extreme, socially isolating, unbalanced, hard to sustain and potentially harmful. Many people get drawn in by so called super foods but no one food can provide all the nutrients you need. Nothing is wrong with kale, but if that is all

you consume all day, every day, then problems will arise - it's all about balance, a healthy relationship with food (not obsession) and variety.

■ BULLETPROOF DIET

What's it all about? Foods are classified as "bulletproof", "suspect" or "kryptonite" with rules on timing of meals.
BDA Verdict: Whilst the idea of minimising alcohol and processed food is positive, the classification of foods is at odds with health recommendations and lacks evidence. Time restricted eating is also at odds with many lifestyles. The Plan's 400-calorie "bulletproof coffee" (containing e.g. 2tbsp of butter) does provide lots of energy but few nutrients. Better to go for foods with more nutritional content.

■ THE SUPER ELIXIR

What's it all about? This is a food supplement aiming to change body tissue from an acidic to an alkaline state. The recommended dose is 2 teaspoons (or 10gs) per day. A month's supply will set you back - brace yourself - £96 for 300g plus caddy/£62.50 for a

300g pouch.

BDA Verdict: How much? The benefits that this costly powder claims to provide can easily be obtained from fruit and vegetables and a balanced diet. Moreover our bodies are naturally capable of regulating acidity levels. Why not save between £750 and £1,152 per year, and spend it on some delicious fruit and vegetables and a "super" holiday instead!

■ TRIM SECRETS

What's it all about? Trim Secrets is a pill, which claims to suppress appetite whilst boosting the metabolism, when combined with their 5 stage diet plan, which includes a balanced diet of 1,500 calories per day. Regular exercise and avoiding stress is also recommended.

BDA Verdict: By consuming 1,500 calories per day, most individuals should lose weight regardless of whether they are taking this pill. The pill has echoes of the grapefruit diet and includes guarana, which is high in caffeine. Beware of pills and potions and make sure you know exactly what you are buying and taking.

Laugh in the face of winter

Get up, get out and seize the season with these new products.

1 Velobici Guilder, £160,
velobici.cc

The brand sounds Italian and the jersey name Dutch, but this is an English product through-and-through. The meryl/lycra fabric is made in Nottingham and the jersey manufactured in Leicestershire. The Guilder is for milder winter days with a soft thermal loop inside the fabric for warmth. Thumb loops let you pull the sleeves right down over your hands, hem grippers keep it in place on your back, and a full-length zip gives the option of spilling heat when you're riding hard. There are five pockets, two of which are zipped and waterproof and there's reflective detailing.

2 Polar A360, £154.50,
polar.com

This new activity tracker combines a wrist-based heart rate monitor with traditional tracking features such as counting steps. The HR function helps you train in specific heart rate zones, and makes calorie calculations more accurate. It can sync with the Polar Smart Training app to aid your training plan... or sync it with your smartphone to receive a vibrating notification of incoming calls and texts.

3 Joby Action Bike Mount, £25,
joby.com

An action camera may well top the polls for the most popular Christmas gift for outdoor fitness fans, and this mount will help you make the most of it. It cleverly attaches in three different positions to your handlebars, so you can choose the angle of shooting. It also has attachments for a Garmin GPS, and a front light so you can ride without the handlebars being cluttered with technology.

4 Purition, £12.99 (for six shakes),
purition.co.uk

A more natural alternative to standard protein shakes, Purition neither dissolves like other powders, nor tastes particularly sweet. Billed as a "real food shake", it has a subtler, nutty flavour due to the seeds and nuts among its ingredients. Each sachet combines whey or hemp protein to deliver 18-20gs of protein (depending on the flavour) per serving. Mix it with milk or yogurt for a tasty recovery drink or even meal replacement.

5 What Skin Needs Skin Balm, £13.99,
whatskinneeds.com

When you're braving the elements your face bears the brunt of the cold, the wet and the wind, while the rest of your body

is covered in warm and waterproof kit. So it pays to protect your skin if you don't want to reach spring looking a decade older. This balm contains aloe vera and plantolin among other natural ingredients to calm irritation and reduce redness.

6 Fuel10K Liquid Breakfast, £11.92 for 8 bottles,
fuelyour10khours.com

If you're grabbing breakfast on the fly, you could do a lot worse than swig this bottle of protein-packed drink designed for sportsmen and women. Each 330ml bottle packs 241kcal, 36gs of carbs and 20gs of protein from soy and milk, but only 0.7gs of fat. It's available in vanilla, strawberry and raspberry flavours.

7 Zoggs Pull Buoy, £11,
zoggs.com

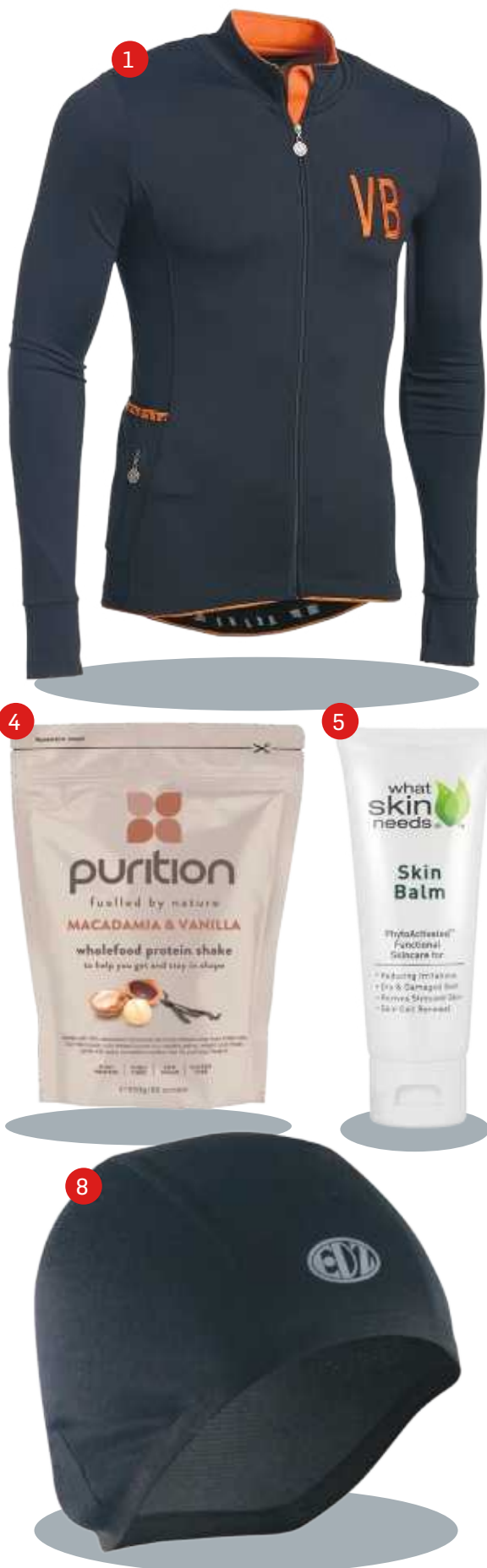
Indoor swimming is the one exception to our outdoor-only training commitment (you break the ice if you want to, but we'll stick with smelling of chlorine all day). This pull buoy keeps your legs afloat so your upper body can do all the work. It's ideal for improving stroke technique and strength, and if you want to challenge your torso, try swimming with the buoy between your ankles rather than thighs.

8 EDZ All Climate Helmet Liner, £12.50,
edzlayering.com

It's not the most glamorous piece of kit you'll ever buy, but when there's ice on the puddles and Jack Frost is gnawing at your ears, you might well think this is the wisest gear purchase you've ever made. The snug-fitting helmet liner fits below a standard cycle helmet, keeping your head and ears warm. It's made from a performance fabric that wicks sweat and dries quickly; or upgrade to a merino wool version for £17.99.

9 Sunwise Hastings, £94.95,
whitbyandco.co.uk/sunwise

It may feel like tempting fate to buy new sunglasses in winter, but the low-lying sun can be a real issue when cycling, and in the mountains the dazzling reflection of rays off snow can be blinding without proper protection. Designed for extreme conditions, the lens technology in these sunglasses has an anti-fog property so there's no need for ventilation holes. Nor is there a frame to obstruct your view. The one-piece lens has a platinum tinted coating to reduce the glare from the snow, and the photochromic lenses respond rapidly to sunlight, darkening within seconds, and blocking 100% UVA and B rays all of the time.





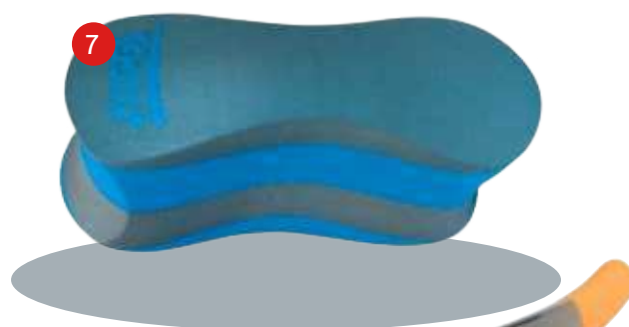
2



3



6



7



9

5 things we learnt from Alison Mead, blind triathlete

When Alison lost her sight, she was worried that she'd never run again, but she is now competing in sprint triathlons.

A BRAIN HAEMORRHAGE and four strokes in 2005 cost Alison her sight. Seeking help, she contacted British Triathlon for a way to participate in sport again, and the organisation introduced her to volunteer guide Roz McGinty. The partnership has been hugely rewarding for both women.

1 Alison: I have always been active and enjoyed swimming, badminton and table tennis, but sport of any kind no longer seemed an option. Roz had not had any training as a guide so we just went for a few runs to get used to running together. Guides are often just as nervous as me, maybe even more so. In November 2014, Roz guided me at my first Parkrun. When I crossed the finish line I remember being really pleased that I had been able to complete the course and I wanted to do another one.

2 Alison: The atmosphere at Parkrun is fantastic and I love being with other people who are running and encouraging each other. Not being able to see where I am is a bit unnerving sometimes but the enjoyment of running is so much greater than the nerves. I rely on sound – listening to the directions from my guide and feeling what I can through the tether or contact. I'm not worried about tripping when I run because bumps and bruises are more likely to happen when I'm walking along the street.

3 Alison: This September, Roz guided me in a sprint triathlon. I would love to step up to Olympic distance, and plan to run a marathon one day. Without Roz I would not be able to take part in the sports I love. My advice to any visually impaired person who wants to try running is three simple words – do a Parkrun!

4 Roz: I had no training as a guide but Alison was a brilliant teacher! She has a little rubber device with a handle at either end. We used to just hold a handle each but over time I have adapted to putting it on my elbow."

5 Roz: Running outside is very different and much more difficult for Alison than the treadmill she had been used to so we employed a run/walk strategy. Alison was grinning from ear-to-ear the whole time. We ran/walked for five miles on our first outing. I suggested going to Parkrun. I felt that running surrounded by so many others would be good for her. Also getting an official time made it feel like more of an event. We had a few funny moments trying to avoid falling into the lake! People were giving us so much encouragement that we were both buzzing afterwards. I cannot recommend guiding enough. It is just so rewarding. I used to hate running 5K but these have truly been the best 5Ks I have ever run."

■ Parkrun is supported by Join In; a London 2012 legacy charity that puts more volunteers into community sport. To find out how you can help your local event visit, parkrun.org.uk or joininuk.org





Dining back from disaster

Eating wisely could accelerate recovery from injury.

Smart nutrition could speed your return from injury, according to a new study. The research, published in the journal *Sports Medicine*, warns nutrient deficiencies could impair the healing process.

"Deficiencies of energy, vitamins, minerals and macronutrients - particularly protein - will impair wound healing and exacerbate loss of muscle and tendon mass and function," it said. In particular, it highlights the importance of maintaining a high protein intake, even if total calorie consumption declines to take account of lower energy needs in the absence of training and racing.

"Higher protein intakes (2-2.5g protein/kg body mass/day) may be warranted, but at the very least the absolute amount of protein intake should be maintained even in the face of reduced energy intake," said the study. It also said injured sportsmen and women may

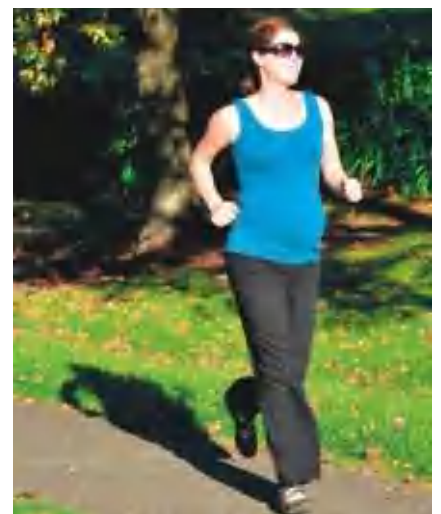
not have to cut back calorie consumption significantly because energy expenditure rises during the healing process.

"During the healing process, energy expenditure is increased, particularly if the injury is severe. Energy expenditure may be increased by 15% up to 50%, depending on the type and severity of the injury," say the researchers. "Thus, whereas reduced physical activity and training may result in reduced total energy expenditure, the overall reduction may be less than appears obvious."

As for foods to avoid, the research suggests caution when consuming foods with high levels of Omega-3 fatty acids, such as mackerel and salmon that have high anti-inflammatory properties. An element of inflammation can actually accelerate healing. It also says "alcohol impairs wound healing," so avoid drowning your sorrows.

High intensity exercise beats pregnancy pains

Running, jogging, orienteering and netball can all help reduce the pains associated with pregnancy, according to new research. Norwegian scientists studied the incidence of pelvic girdle pain among almost 40,000 women, and discovered that those who took part in three to five sessions of high-impact exercise per week before pregnancy had a 14% lower risk of developing pelvic girdle pain during pregnancy, compared to non-exercisers. Among those surveyed, 10.4% reported pelvic girdle pain in pregnancy said the study in the *British Journal of Sports Medicine*.



Exercise in a pill

Australian scientists say drugs that mimic the benefits of exercise could soon become a reality.

Their breakthrough research has identified more than 1,000 molecular changes in muscles triggered by intensive exercise.

"Exercise produces an extremely complex, cascading set of responses within human muscle," said co-author Dr Nolan Hoffman from the University of Sydney's Charles Perkins Centre and Faculty of Science.

"It plays an essential role in controlling energy metabolism and insulin sensitivity."

While scientists have long suspected that exercise causes a complicated series of changes to human muscle, this is the first time they have been able to map exactly what happens. A drug that can prompt these responses could lower the risk of people unable to exercise contracting Type 2 diabetes, cardiovascular disease and neurological disorders.

"Exercise is the most powerful therapy for many human diseases," said Professor David James Leonard P. Ullmann Chair of Metabolic Systems at the Charles Perkins Centre and the head of the research group that undertook the study.

DIY Protein Shake

In this new series endurance nutrition expert Renee McGregor provides easy to prepare performance boosting food and drink recipes and tips. (Food and drink that you can prepare yourself... and yes, very easily!)

THERE ARE SO many products on the market designed to improve your performance during training or competition, but it's straightforward to prepare your very own. And the benefits are that you can tailor them to your personal taste preferences and save some money in the process.

TROPICAL SMOOTHIE PROTEIN SHAKE

We all know that recovery post exercise is key, both nutritionally and physically in order to help muscles repair and adapt to training. With good recovery between sessions you'll benefit from training consistency, which will optimise your performance.

Protein is a key nutrient in terms of response to exercise and so contributes significantly to the recovery process. When you mention "recovery nutrition" many people immediately think about using a protein shake - whey, pea, soy and hemp are just some of the protein isolates available on the market, but does everyone need to have a container of protein powder taking up space in their kitchen cupboard? The simple answer is, no.

OK, protein shakes can be useful in some situations. They are convenient and easy to carry and are therefore beneficial when training away from home; they're useful too for multi-day events or when abroad. Indeed the only time I tend to recommend them would be with elite athletes in high volume training when they are an easy way to kick-start the recovery process before their next training session later that day.

A recent study compared consuming whey protein immediately post resistance training with eating a steak. When they looked at the results, it was discovered that after two hours the individuals who had consumed whey protein had a higher level of available essential amino acids compared with the steak eaters. However, five hours later the reverse was true. So, for the majority of us, choosing a whole protein food as a recovery option would be sufficient to still allow for recovery and adaptation.

With that in mind, it's possible to make your protein shakes with real food options, providing you with all the nutrients your muscles need for optimal recovery post training.

GET 20G OF PROTEIN WITH THIS REFRESHING TROPICAL SMOOTHIE RECOVERY DRINK.

You'll meet the recovery requirements of most adults, as recommendations are for 0.25g/Kg bodyweight protein. (Carbohydrate intake post training will be very much dependent on the session that has just been completed).

Serves: 1 Preparation time: 5 minutes.

Ingredients

- 200ml tropical fruit juice
- 200g fat-free Greek yogurt
- 1 handful of ice

Put all ingredients into a blender and blend until smooth. Pour into a glass and serve straight away. It's as simple as that!



RENNE MCGREGOR

Is a registered dietician and sports nutritionist and ultrarunner, eatwellfelfab.co.uk



**Jack
Wolfskin**

AT HOME OUTDOORS

Jack
Wolfskin



THE NEW INSULATION MATERIAL

DOWN FIBER

- + Insensitive to moisture
- + Insulates even when damp
- + Dries quicker than pure down

COTSWOLD
outdoor

THE TROPOSPHERE JACKET IS AVAILABLE AT SELECTED STORES NATIONWIDE | OVER 12,000
JACK WOLFSKIN PRODUCTS ONLINE AT [COTSWOLDOUTDOOR.COM/JACK-WOLFSKIN](https://www.cotswoldoutdoor.com/jack-wolfskin)

Outdoor Fitness

OUTDOORFITNESSMAG.CO.UK
OUTDOOR FITNESS Kelsey Media, Cudham,
Tithe Barn, Berrys Hill, Cudham, Kent TN16 3AG

EDITORIAL

EDITOR John Shepherd of.ed@kelsey.co.uk
CONTRIBUTING EDITOR Jonathan Manning
CONTRIBUTORS Nilufer Atik, Mark Bailey, Ian Corless, Nicola Davies, Will Girling, Damian Hall, Andrew Hamilton, Henry Iddon, Rob Kemp, Tim Kemple, Patrick Kinsella, Paul Larkins, Matthew Maynard, Sean McFarlane, Renee McGreggor, Phil Nourse, Anthony Pease, Jennifer Peedom, Steve Wells

DIGITAL EDITOR

Andrew Cumner-Price
andrew.cumner-price@kelsey.co.uk

ADVERTISEMENT SALES

GROUP ADVERTISING MANAGER

Jason Baker, 07710 096548

KEY ACCOUNT MANAGER

Chris Cope, 01733 306202/07496 270322

SALES EXECUTIVE

Irena Cornwell, 01780 749502

PRODUCTION

PRODUCTION DEPUTY MANAGER

Sarah Willmott, 01733 353376,
sarah.willmott@kelsey.co.uk

PRODUCTION MANAGER

Jackie Aubrey

MANAGEMENT

MANAGING DIRECTOR: Phil Weedon

CHIEF EXECUTIVE: Steve Wright

CHAIRMAN: Steve Annetts

FINANCE DIRECTOR: Joyce Parker-Sarioglu

CREATIVE DIRECTORS:

Vicky Ophield & Emma Dublin

RETAIL DISTRIBUTION MANAGER: Eleanor Brown

AUDIENCE DEVELOPMENT MANAGER:

Andy Cotton

SUBS MARKETING MANAGER: Dan Webb

BRAND MARKETING MANAGER: Rebecca Gibson

EVENTS MANAGER: Kat Chappell

EVENTS MARKETING MANAGER: Sarah Jackson

SUBSCRIPTIONS

13 issues of Outdoor Fitness are published per annum

UK annual subscription price: £58.50

Europe annual subscription price: £71.49

USA annual subscription price: £71.49

Rest of World annual subscription price: £79.99

UK subscription and back issue orderline: 0845 241 5159

Overseas subscription orderline:

0044 (0) 1959 543 747

Toll free USA subscription orderline:

1-888-777-0275

UK customer service team: 01959 543 747

Customer service email address:

subs@kelsey.co.uk

Customer service and

subscription postal address:

Outdoor Fitness, Customer Service Team

Kelsey Publishing Ltd, Cudham Tithe Barn, Berry's

Hill, Cudham, Kent TN16 3AG

United Kingdom

Find current subscription offers on our website:

shop.kelsey.co.uk/OFI

Already a subscriber?

Manage your subscription online: shop.kelsey.co.uk/

site/loginForm

www.kelseyshop.co.uk

Back Issues: 0845 873 9270

Books: 0845 450 4920

DISTRIBUTION Seymour Distribution Ltd, 2
East Poultry Avenue, London, EC1A 9PT www.
seymour.co.uk Tel: 020 7429 4000

PRINTING William Gibbons & Sons Ltd



WWW.KELSEY.CO.UK

There's no mistaking
the distinctive profile
of Roseberry Topping,
a hill in the North
York Moors





Shutterstock

Summit for the weekend

ROSEBERRY TOPPING

It may sound like a summer pudding, but this spiky hill on the edge of the North York Moors has trails to thrill outdoor fans.

Why: There's no mistaking the distinctive profile of Roseberry Topping, a hill in the North York Moors that compensates for its lowly altitude with a dramatic outline. A combination of erosion and a collapsed mine have secured it the nickname "mini Matterhorn", and the views from the top are stupendous. To the south and west the rugged moorland of the Cleveland Hills stretches to the horizon. To the east, the North Sea appears beyond Redcar and Saltburn, and to the north, err, lies the industrial sprawl of Middlesbrough. Roseberry Topping itself is a highlight of the Cleveland Way National Trail, and paths and bridleways fan out from this rocky outcrop for walkers, fell runners and mountain bikers to enjoy. Barely 4kms away to the south is the striking obelisk dedicated to Captain Cook, the first European to reach Australia, who spent his childhood exploring the slopes and summit of Roseberry Topping.

Mountain bike here: A bridleway crosses the summit of Roseberry Topping and there are great loops right across the moors, mixing single-track with a few stony sections. The hill can be busy at weekends with walkers, but there are plenty of fine trails to enjoy even if you don't make it to the top.

Road cycle here: Fleets of riders pedalling through Great Ayton (or stopping for an ice cream or coffee at Suggitts on the high street), indicate the quality of road cycling in the foothills of Roseberry Topping. Quiet roads criss-cross the North York Moors National Park, and if you can climb the 33% gradient of Rosedale Chimney without putting down your feet you're a better cyclist than us! It's just one of the tough ascents that features in the Stockton Sportive Le Tour de Moor, which packs 3,361m/ 11,027ft of climbing into its 170.3km/105.8 miles route (velo29events.com).

Run here: It's a short, but very steep climb up the flanks of Roseberry Topping, and it can be very breezy at the top, but it's worth lingering a moment or two to soak up the fabulous 360-degree panorama. A loop between Great Ayton, Captain Cook's Monument and Roseberry Topping makes a fabulous 6.5-mile circuit for fell runners, with its mix of woodland and moorland. If that sounds a little modest for your taste, the Hardmoors 26.2 Roseberry Topping Trail Marathon offers 10km, half marathon and full 26.2-mile routes in a sell-out event every December (262.hardmoors110.org.uk)

Walk here: The Cleveland Way National Trail deserves to be the best known long distance path in Britain. Where other trails offer just one landscape, the Cleveland Way mixes heather moorland with stunning coastline on its 110-mile march from Helmsley in the North York Moors to Filey on the North Sea coast, passing by Whitby and Scarborough on its way.

There are spellbinding views from Sutton Bank, amazing birdlife in the spring, and both bluebells and heather add a dash of colour when they are in flower. More information, nationaltrail.co.uk/cleveland-way

Maps: Ordnance Survey Explorer OL26 North York Moors Western area covers the region around Rosebury Topping.

Plan your visit: Bargain shut-eye at Kildale Camping Barn, not far from Roseberry Topping, where fees are just £10.00 per person per night or £120 for the entire barn (it sleeps up to 12), kildalebarn.co.uk. The nearest youth hostel is at Osmotherly. For a B&B, try Susie D's in Great Ayton, where a single room costs £35pppn and a double room £60, susieds.com. And don't forget to buy an ice cream at Suggitts.

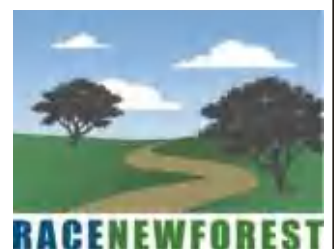
Gladiator "Iron-Distance" Triathlon & Boskman Middle Distance 26th June 2016

Full/Long distance events at historic Buckler's Hard in the New Forest.



**Swim 3.8km/2.5km, Cycle 180km/125km,
Run 42.2km/21km**

**If you will put yourself through hell,
do it somewhere nice!**



www.racenewforest.co.uk



CANCER
RESEARCH
UK



10KM WINTER RUN SERIES
SNOW ZONES, POLAR BEAR HUGS AND MORE

LIMITED ENTRY PLACES
STILL AVAILABLE



LIVERPOOL | SUNDAY 17 JANUARY | 2016
LONDON | SUNDAY 31 JANUARY | 2016
MANCHESTER | SUNDAY 28 FEBRUARY | 2016

ENTER ONLINE:

www.winterrunseries.co.uk



Bad Santa

Despite being dressed as Father Christmas, Damian Hall didn't behave entirely in the Christmas spirit at the Avon Valley Santa Dash 10K.

GLANCE BEHIND, to check this really is happening and it's not just some surreal hallucination, a terror fantasy in my warped mind. But yes, hot on my tail is a line of Father Christmases. All in red, white and splattered with mud, pelting it along in pursuit.

As a child, 100 Father Christmases would have been a dream come true. As an adult, it's both bizarre and a reminder that I need to shift up a gear. This 10K may be a Santa Dash, a fundraising fun run. But I want to win. It's not the first or last time I will hideously misjudge the mood of the occasion.

It wasn't until the previous night that I first thought about doctoring my Santa suit. It fitted. But I could have got my son and daughter in there too, one in each trouser leg.

The angel of my shoulder said: "Don't be a competitive Dad. This is purely a fun event." The devil said: "Be a Competitive Dad (your kids will be there and you didn't even win Parkrun last time they came to watch)."

Of course I listened to the devil. He's much more fun. And I gave the famous outfit a nip and a tuck, mainly to ensure the big baggy trousers don't drop to the floor mid-race triggering a face plant. But I felt a tiny bit guilty about it. Like it wasn't really the done thing.

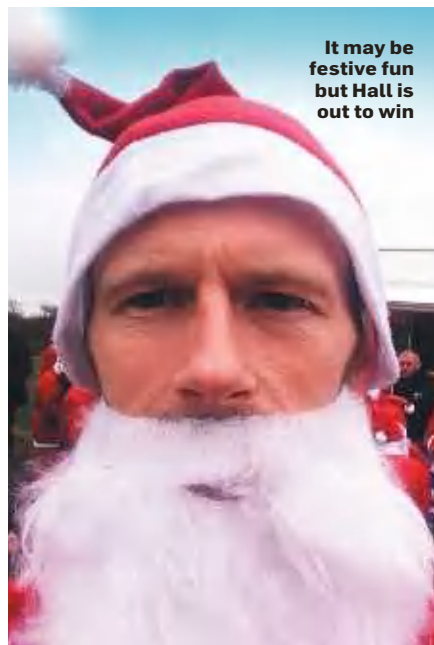
Arriving at the Avon Valley Adventure and Wildlife Park in Keynsham, between Bristol and Bath, almost everyone we see is dressed as Santa. The universal costume, pub quiz fans will know, was originally designed by Coca-Cola to try and get more people to buy their demonic sugar-fizz in winter.

We're soon doing orchestrated over-zealous stretches, led by an over-enthusiastic lady with a microphone. Being one of 100 Santas doing star jumps in unison should be on everyone's bucket-list. I notice one or two runners have cut their trousers to three-quarter lengths, the cheats! (I only rolled mine up.) Game on.

We're off. I assume my kids are watching (they're actually playing in the park), so I hare off at the front. I glance behind. All I can see is red-faced, red-suited Santas, bobble hats bobbing, white beards flowing. It's hilarious and brilliant and I realise most people aren't taking this seriously at all. I can win this!

As we gallop through super-slippery fields, I feel equally glad I've recently done some home-made core strength sessions, and that I'm wearing Salomon Fellraisers (not Santa's de-rigueur boots for me). I'm gripping the ground and – mostly – remaining upright, where others are sliding around like fawns on ice, wasting precious energy. At around 4K I move up to first place.

On the second lap I start to pass other Santas... stripping. Such is the varied states of undress as runners overheat, belts, beards, and sometimes complete costumes, are



strewn across the hedges.

The second lap is muddier still. Looking behind again, I can't identify the second place runner amid several fields full of muddy Santas. With about half a kilometre left the race looks in the bag, But I want to finish strongly to impress my kids. As I approach the Adventure and Wildlife Park itself, I'm so in the zone that I don't hear the shouts of a marshall. Instead I hammer it towards where I think I remember the start and finish being.

It's not there though. Somewhere between the hamsters and huge rabbits, I become topographically befuddled. I charge back. That way's not right either. I'm dashing desperately back and forth between children's train rides, crazy golf and pygmy goats. I'm in Dante's *Inferno*. The festive terror fantasy has become real. I expect to be encircled by Santa's elves at any moment, cackling evilly.

When I eventually find my way to the finish, I haven't won. I really wish I'd responded to that news with the dignity, sense of humour and in the spirit of the occasion it deserved. But I hadn't had much sleep. And I hadn't won. And, worse still, it was my fault.

Luckily my kids were enjoying the playpark so much they'd forgotten all about their Daddy and didn't witness a not very dignifying scene. In retrospect, few things are funnier or more surreal, than a sulking Santa.

For information on 2016's Avon Valley Santa Dash, visit aspirerunningevents.co.uk. Around 100 Santa Dashes are held in the UK in November and December. Start training to smash those other Father Crimbos now, and search for your nearest at santadash.co.uk





HOW TO DOCTOR YOUR SANTA SUIT

Sure, a Santa Dash is all about the festive spirit and blah, blah, blah. But you still want to win, right? Most events post out suits (which you may be able to keep afterwards), but they'll probably be one size fits all. You need to get it race ready.

Your biggest concern will be the trousers, which will be HUGE. You'll need to find a way of controlling the drawcord so you can get them tight around the waist. Take a few stitches out if you have to, to get to it (I did). Also don't rely on that Santa belt. It may look the business, but that's not a real buckle (gasp, next

they'll be saying Father Christmas isn't real...). So grab a safety pin or two to get that jacket fastened, as it could be a real race-ruining nuisance undone. Although you'll definitely get warm, so you don't need it tight. Also, see if your hat will fall over your eyes when running and check that it's easy to pull your beard down a bit to breath without swallowing all that white carpet. If you can get Rudolf and pals with a sleigh to park in a hedge 1K into the race and give you a lift to near the finish, so much the better. It may be Christmas, but it's still a race.



1 ONLINE
subscriptiongiftshop.co.uk/sale16

2 POST

Fill in the form and send to:
Subscriptions, FREEPOST RTKZ-HYRL-CCZX,
Kelsey Publishing Ltd., Cudham Tithe Barn,
Berry's Hill, Cudham, Kent, TN16 3AG.

☒ **YES!** I WOULD LIKE TO TAKE ADVANTAGE OF THESE SPECIAL DISCOUNTED PRICES.

☐ This subscription is for myself ☐ This subscription is a gift

Mrs/Ms/Miss/Mr Forename

Surname

Address

.....

..... Postcode

Daytime phone Mobile

Email

Mrs/Ms/Miss/Mr Forename

Surname

Address

.....

..... Postcode

Daytime phone Mobile

Email

--	--	--	--

SALE16

**PAY JUST £27.99
FOR 13 ISSUES
AND SAVE 46%***



A close-up of a brown, textured gift tag with the words "A GIFT FOR YOU" printed in a bold, sans-serif font. The tag is attached to a red ribbon and is set against a background of a repeating geometric pattern in red, white, and yellow.

* 46% saving based on digital cover price of £3.99 per issue.



SUBSCRIBE AND SAVE £££'s

NATURE'S GYM, SWIMMING, CYCLING, RUNNING

Outdoor Fitness

MAKE YOUR LIFE COUNT

FILL IT WITH ADVENTURE WE SHOW YOU HOW

SAVE

UP TO 40 %

6 ISSUES £19.99 OR 13 ISSUES £34.99

SAVE MONEY ON THESE & MANY OTHER FANTASTIC MAGAZINES THIS NEW YEAR...

SAVE UP TO 36% 6 ISSUES £19.99 12 ISSUES £29.99	SAVE UP TO 37% 6 ISSUES £19.99 12 ISSUES £29.99	SAVE UP TO 40% 6 ISSUES £19.99 13 ISSUES £34.99	SAVE UP TO 45% 6 ISSUES £14.99 13 ISSUES £24.99	SAVE UP TO 39% 6 ISSUES £19.99 13 ISSUES £34.99	SAVE UP TO 32% 6 ISSUES £19.99 13 ISSUES £34.99
--	--	--	--	--	--

VISIT: subscriptiongiftshop.co.uk/sale16

Fellow OF writer
Charlie Norton
attacks a hill with
the Nordic masses
in hot pursuit.

Words Patrick Kinsella Pictures Henry Iddon

STONE COLD CLASSIC

Cross-country ski virgin Patrick Kinsella takes on the world's biggest race, the classic Birkebeinerrennet in Norway.



The elites get away in explosive style.



H

Heia! Heia! Heia! Heia! I've no idea what the people lining the track are yelling at me. But they seem to be in good spirits – having consumed plenty of good spirits,

judging by the way some are swaying. I'm not exactly stable on my feet either. In fact, I'm not sure I could be further from my natural element than I am here, perched on a pair of splinter-skinny skis, battling through Norwegian mountains in the planet's biggest cross-country ski race – the Birkebeinerrennet.

I am to cross-country skiing (any skiing, in fact) what a T-Rex is to a Mexican wave. I entered the race while high on endorphins after doing the mountain biking version of the event in summer. Listening to locals talking about the winter race, I'd become spellbound by the backstory and caught up in the Birken buzz. This is much more than just another ski race for Norwegians – it's a cornerstone of the country's cultural calendar. More than 17,000 people annually enter the event, a 54-kilometre "classic" cross-country marathon, from Rena to Lillehammer, which is as eccentric as it is popular.

The race commemorates a moment in Norwegian history when a royal infant – Prince Haakon – was smuggled through the mountains by two skiers, who were protecting him from assassins. That was in 1206. Now, some 800 years later, the number one Birken race rule demands that all competitors carry

Getting into the swing of things. Pat powers through the powder.





an extra 3.5kgs of baggage (beyond any food or drink they might consume) to symbolically represent the weight of the baby.

Sold. This was something I simply had to experience, regardless of my utter inability to ski. My partner in crime would be photographer Henry, who assured me he was as green as I was. (It later transpired he'd represented England as a speed skier, and still goes on regular randonnée adventures.)

I had a few months to learn the ropes of the slopes, and the Birken's very own Jean-Francois (JF), a former ski coach, offered to give me some lessons. How hard could it be? One crash course, a few rollerski sessions and several months of dry training later, I was finding out. (See our Dec issue for a detailed account of my preparation.)

In Rena, rows of weighing scales surround the starting line, and skiers nervously queue to check they're carrying enough bulk. I'm warned there'll be spot checks at the end, to ensure that skiers are still lugging their fair share of pseudo baby.

This is a big deal. A few years ago, the local police chief was caught cheating – adding his required baby weight just before the end of the race instead of carrying it all the way around.

Henry and I both tip the scales with camera gear, but people lug an astonishing assortment of items to make up the weight. Torb – a local veteran of numerous Birkens, who helped with our training – always carries

an encyclopaedia, the volume with B in it, and at the back he records his finish time.

This year, among the 17,000 common competitors, a crown prince is once again being shepherded through the mountains in an echo of 1206. Norway's present Prince Haakon is no baby, though, he's also a very handy skier. There are no known assassins on his tail either, but he's flanked by a couple of "companions" just in case, and I can guess what they're carrying as extra weight.

The field is so huge that competitors begin in waves, each containing 200 or so skiers, with five minutes space between each one. The elites are let loose first, and we watch them make a charging start, double-poling up the first hill. These skiers are all chasing a much-coveted market – medals awarded to those who finish within a certain time (calculated by averaging the times of the first five finishers across the line in each class, and then adding 25%). Those that nail it, I'm told, often mention market results in their CVs.

With Henry and a couple of our compatriots, Charlie and Tony, I'm corralled into the starting chute about halfway through proceedings. It is, by any stretch, a far earlier position than I deserve, but if I'm going to finish before dark, I need to get moving.

As we're released, I'm still struggling to get my right foot into the ski, demonstrating the sort of silky skills that must make JF proud (not). When I finally get underway – already

200 metres in arrears of the group – I spot my mentor looking on. Heia! Heia! he gamely shouts, but concern – or perhaps embarrassment – is writ large across his face. It's an inauspicious start, but I'm determined not to let him down.

The first 20 kilometres out of Rena are almost all uphill. Technically my skiing might leave a lot to be desired, but a

Despite my best efforts on rollerskis over the months, I undoubtedly have the worst technique on display today

reasonable degree of running fitness and enduro experience come in handy on this long climb. Once into a rhythm, I even overtake a couple of locals, changing lanes to get around them in the kind of clumsy close-to-calamity manner that must leave them mortified.

Buoyed by the realisation that I might not actually finish in 17,000th place (a race result my CV could do without) I go over the brow of a hill and begin a big descent before I realise what's happening. Classic cross-country skiing takes place in groomed parallel tracks, and once you start going downhill, the only way to control pace is to



Charlie at the end of the race.



The final weigh in reveals Pat's been carrying plenty of baby bulk.

take one ski out of the tracks and attempt a half plough.

Beyond a certain speed this is a risky manoeuvre, but there are two other options for the inexperienced skier: panic and throw yourself on the icy deck in an ungainly and painful emergency stop, or hang on for the ride, hoping you can handle the speed wobbles and stay upright. I opt for the latter, whooping with terror-laced excitement as I zoom down the hill, thighs screaming. My smartwatch later tells me I hit 45km/h here – but when you're travelling on toothpicks, everything feels thrice as fast.

Alongside the track, as it undulates across the sensational surrounds of the Sjusjøen plateau, local spectators have dug in and made themselves comfortable, sculpting seats from snow and lining them with sheepskin rugs to prevent bum freeze. The more elaborate of these set-ups also boast windbreaks, tables and footrests formed from ice, and stuck into the snow are various bottles of booze – social antifreeze to consume as they watch 17,000 skiers skid past. A festival buzz fizzles in the alpine air.

I might be somewhat fitter than a few of my 16,999 fellow competitors, but despite my best efforts on rollerskis over preceding months, I undoubtedly have the worst technique on display today. Onlookers spot me a mile off, and several run alongside for hundreds of metres, yelling Nordic words of

encouragement in my ear. At least, I assume they're words of encouragement...

The older the day gets, the more the crowds imbibe and the extra enthusiastic they become. Countless times I'm invited over for a shot of firewater, and at one stage I look up during a descent to see a Viking woman straddling my track, arms outstretched. "I can't stop!" I yell. I'm not bluffing, but she doesn't budge and we end up entangled in a heap on the floor – skis, poles, legs, arms and laughter all over the place. It's not my first crash of the day, nor will it be my last – but it's definitely my favourite.

Fuelled by bananas and honey-drizzled vafler (waffles) stuffed into my mouth by volunteers at feeding stations, I'm spurred on by the atmosphere and the landscape, which is at once beautiful and brooding.

We've scored a bluebird day and the Norwegian peaks sparkle under a cobalt sky, but in the distance the darker Jotunheimen range looms. According to local folklore, these moody mountains are home to trolls. Not the cute roly-poly ones from *Frozen*, rather the tear-you-limb-from-limb kind that populated Norwegian mythology long before Disney hijacked them and added sugar.

In Sjusjøen, the Birkebeinerrennet trail intersects with another backcountry route called the Trolløype, literally meaning troll track. They take their mythical monsters very seriously here. Almost as seriously as they

take their racing. Norwegians take no prisoners when they're chasing a Birken PB.

From Sjusjøen, the course dramatically drops through a series of narrow tree-lined gullies, and the final 8 kilometres of the race are all downhill. These descents are fast and furious – with skiers skilled enough to stay upright virtually riding right over the top of those of us who spend more time sprawling on our backsides.

One last steep descent delivers me into the arms of the Winter Olympic stadium, where a very jolly JF presents me with my hard-earned pin and confesses he'd had his doubts. Henry and Charlie have come in just before me, and Tony arrives a few minutes later.

The baby-weight spot-checks begin. My camera-packed bag tips the scales at a more-than-healthy 7kg. Twins! Henry's is heavier still, but Tony is the proudest dad of all – his backpack gives birth to a 1.5 litre bottle of gin. He's carried it far enough – time for a toast. To a prince of an event – Heia! Heia! Heia!

■ This story is dedicated to the memory of Charlie Norton – journalist, friend, *Outdoor Fitness* contributor and Birkebeinerrennet brother, who was tragically killed in an accident in June 2015.

■ The Birkebeinerrennet takes place every March. More info, birkebeiner.no

PLEASURE AND PAIN

We sent our man Matt Maynard to run one of the toughest races in the world, Chile's, Patagonian Ultra Fiord 70 miler. He runs through forests inhabited by pumas, swims across rivers and cowers in crevasses.

Words Matt Maynard



T

he 3,000m granite towers of Torres del Paine are rolling towards us through the twilight. I watch as the Brazilian athlete Manu Vilaseca kneels in the aisle at the front of the bus and sways to the rhythm of the dirt road. Her hands are to her face. Her posture is one of prayer. The glacial waters of Lago Torres come into view,

undercutting the mountains. She bows her head and whispers some words to herself that I cannot hear. The Patagonian picture postcard vista is perhaps in her prayers, but it's also alive in front of her and she is clearly entranced by the dangerous beauty of it all. At 8:30 the next morning, she will put her thoughts and prayers into action.

I was taking part in the first edition of Ultra Fiord but the race's story began over a decade ago with a different event altogether: The Patagonian Expedition Race. The concept behind this annual race was to open new passages through the vast, pristine and virgin expanses of wilderness at the bottom of South America and in doing so reserve it for sustainable activities for generations to come. It's a multi-day, non-stop team event by foot, kayak and bike. Racers cover distances of up to 650 miles in up to 14 days of competition, with as little as six hours sleep in total. *National Geographic* once called the event "The Last Wild Race." The man behind it is Stjepan Pavic and he's also the driving force behind the Ultra Fiord – a race *National Geographic* might want to call, "The New Wild Race"!

"Whilst I'd definitely come here to be competitive; drowning or becoming wildlife fodder had not featured on my training plan."

Daylight begrudgingly loomed out of a sodden and very long Patagonian night. The start list for the Ultra Fiord was loaded with athletes from 14 countries, including no less than three previous winners of the revered 100-mile Ultra-Trail du Mont-Blanc. Four separate events of 20, 40, 70 and 108 miles were being run. Amidst the runners there were whisperings of glacier travel, of puma sightings and of river crossings. Whilst I'd definitely come here to be competitive; drowning or becoming wildlife fodder had not featured on my training plan. I tentatively planned to run towards the front of the 70-mile race; but never so close that the big cat in the bushes would reduce the field by one.

Manu was running the 40-mile race and I tried to match her quick clipped pace from the startline, running fast across the dewy grass on the forgiving peat soil, towards the mountains. A cluster of braying horses trotted alongside us at first, partly obscured by the low fog. Shortly, we entered single-track, then passed through moss laden trees, then we heard a baritone rumble from across the water to the north as a chunk of Glacier Serrano calved off, and was enveloped by the waters of Rio Grey.

The first river crossing divided the competitors into two camps: those who pitter-pattered around ponderously at the water's edge removing shoes and those who took a more direct approach and simply waded in and swam across immersing all of their dry layers. I sided more with the cautious souls. I smiled to myself ruefully at the mud and the lake that we had to continuously wade through over the next 18 miles.

At the first aid station, Pavic stood over me outside the event tent and told me I was in second place in the 70 miler. For a moment we both scanned the field of ultra-runners coming out of the forest, banking wildly across the open ground toward the aid station. Pavic turned to me again, grinning wildly and said: "Now the real challenge begins." This Dr Frankenstein or race creators was referring to the not travelled line through the mountains that, five months previously, when the race was first conceived, no human had ever set foot.

I turned my back on the rain-riddled lake and climbed aggressively onto the virgin slopes of unidentifiable plants and glacial till. The slope kicked hard, the contour lines like monkey bars. I concentrated on hydration and force-feeding myself. The altitude and exertion and the

certainty of at least 12 more hours racing would put me into a serious calorie debt if I neglected my house keeping now. Renee McGregor my nutritionist had made me well aware of this and I ploughed in those 70gs of carbs per hour, like coal into a steam locomotive.

The Grey River continued flowing way beneath, heading due south to join the system of fiords after which the event is named. In 1557 the desperate Spanish sea captain, Juan Ladrillero had launched his final futile attempt to cross from the Pacific to the Atlantic Ocean through this labyrinth of waterways. He named it "Last Hope Sound". I hoped I would find my way through a very circuitous 24 miles in the mountains to arrive at the fiords before nightfall.

But I suffered negative thoughts; If Ladrillero couldn't find a way through at sea level, I held out very little hope for my own safe passage higher up. These morbid thoughts were soon cut short once above the tree line at 1,000m. A southerly Antarctic wind blew me out onto a snow clad boulder field and then continued to funnel me into a boulder-strewn valley, and on towards a glacier.

An ice-screw had been driven into the foot of it, a climbing rope had been attached and was strung out, quivering in the wind, like the outlying strand of a giant spider's web. At this same location 20 minutes later, the American Willie McBride would run for his life to escape the path of rock fall. Sofi Cantilo, the Argentinian 70-mile favourite, was not so lucky and spent two days awaiting horseback evacuation, after sustaining a blow to her leg. I heard this avalanche of rocks from higher on the glacier. I reflected that I had only ever travelled on terrain like this before with an ice axe, crampons and helmet, and whilst roped to another climber. The wet fabric of my running shorts was beginning to stiffen with ice, my lightweight running shoes were ravaged and almost out of tread. I felt like the mistaken man in fancy dress, who had arrived for a party at the South Pole.

The Brazilian in first place was climbing hard about 500m above me. I kicked steady, secure steps into the rustling snow that was slowly transforming into ice crystals the higher I climbed. The concave slope had a trail of zig-zagging footprints towards the precipitous finale, and I looked momentarily over my shoulder and down the fall-line towards white oblivion - before shaking my head, and pushing on to the top. This was a running race and I had trained



RACELIGHT 4SDISC

A BIKE YOU'LL WANT TO RIDE WHATEVER THE WEATHER.



4SDISC FRAMESET **£649.99** ^{SRP}

[Frame/Full Carbon 'Tracer 1.5' Fork/Clamp/Headset and Flat Mount Adaptor]

kinesisbikes.co.uk | 01403 711 611



Photo Alexis Gatica

hard all through the South American summer to be as competitive as I could. Torres del Paine - eighth natural wonder of the world and a famous trekking destination - was less than 15 miles away. To be making some of the first ever footprints over a mountain pass so close to the route had to be hard. It had to be like this. But I wasn't ready for what I found on the other side of the mountain.

Glaciers are very slowly moving rivers of ice that can crack and open to form crevasses. So far there hadn't been any gaping jaws to swallow unsuspecting runners. These vertical catacombs have the insidious habit of disguising themselves under a thin dusting of snow and can bury you a hundred metres underground in a matter of seconds. Before me now, on the other side of the pass, was the eye-of-the-storm. The convex descent was like a stormy sea - frozen at its apocalyptic height. I waded out into the first choppy layers of snow and gazed further out, to where a three-storey barrel wave of ice was suspended over the course markers. I set out, intent on following the few footprints of the runners that had gone before me. Just metres from finally escaping the glacier, I saw two channels of slightly different textured snow. Footprints had crossed them without seeming to break stride. My eyebrows reached back to the crown of my head, as I bridged across the invisible abyss to the relative safety of an ice rock shelf.

I had been racing for nine hours. Darkness was near. This was the time to run fast out of the mountains and into the forest to cover as many miles before nightfall. I could see Manu and the Brazilian 300 metres below, working hard, jumping between boulders, equally eager to escape. Manu would later finish the 40-mile event in first place in the women's race, but I still hoped to catch my rival Fernando before our longer race was over.

The vegetation slowly returned. Wild bulls, that had never encountered man, turned and saw muddier, more domesticated versions of themselves obediently running between course makers to warmer pastures. Deeper in the valley, I ran through auburn trees, gently conceding to the changing season. Silently they had stood for five-hundred-years, repeating this cycle. Here I was witnessing my first ever autumn; seeing the leaves become part of the ground from which they grew.

"It is easy," Charles Darwin had said, whilst exploring 19th century Patagonia, "to specify the individual objects of admiration in these

grand scenes; but it is not possible to express those higher feelings of wonder, astonishment, and devotion, which fill and elevate the mind." I know where Charlie was going with that.

Night came at mile 40. When the head torch goes on, it is like a submarine submerging. The hatches are closed, the world becomes very narrow and focused and all the sounds become magnified and threatening. Going into it you need to be positive, dismiss tiredness, and temper the imagination. A hammering noise in the trees is just a woodpecker, not the mad axe man. The blinking eyes in the woods are reflective course markers passing behind trees, not the predatory eye of a puma. The snapping of twigs behind you, that's your own footsteps you idiot. Keep running!

Pavic's created passage through the mountains finally ends with a river crossing up to my waist. I waded onto a remote sheep farming estancia (ranch) just before 10pm and with about 13 hours raced. Once on the rolling 4x4 track, I become just a narrow beam of light jogging slowly through the night, and am unaware of the fiords to my right. There remains one final marathon to the finish.

Towards midnight my active involvement with forward propulsion is slipping into a state of background function. I'm on automatic. My arms and hands dangle limply and the motion feels akin to running but I have no point of reference. I hold the head torch light against each of my eyes in turn. I need a jolt to kill the sleep monster. The body keeps moving forward.

The finishing gantry was rolling towards me through the artificial twilight of the town plaza. It was 2:00am and I had been running for 17 hours and 26 minutes. Fernando Nazário had me well beaten into second place and was already on his way to bed.

Stejan Pavic was there: "Think you will be recovered enough for the 108-mile race next year?" he quipped.

I had my face in my shoelaces trying to get them untied but was remembering the 70 miles of rivers and bogs, untamed mountain, crevasses, wild bulls, the eyes of the puma and the battle with my sleep demons. Most of the 108 mile runners would be out there in that, and more, for over 35 hours.

"Yeah sure, what's another 15 hours?" I said with a gritty smile. "But you can't call that ultra-running, - it's more like survival-running!"

ULTRA FIORD ESSENTIAL INFO

WANT TO RUN ULTRA FIORD (OR ANOTHER ULTRA)?

■ Even for very experienced runners, this may not be the event to run your furthest distance to date. I had run 70 miles at Ultra Mallorca, a year before Ultra Fiord with a lot less training, and finished that race three hours quicker.

■ The Ultra Fiord is not a race for the faint-hearted in all meanings of the term. It's a primeval race – a test of body, mind and nerve. There are dangers as I pointed out. You'll also see on page 42, that Nikki Kimball believed the race to be too dangerous...

■ Consider choosing an easier, familiar (or shorter distance) ultra and enjoy the event (whatever it is) and the incredible scenery you are travelling through.

■ Choose a training plan that is manageable and stick to it. Be sure to include running/power hiking in your schedule as well.

■ Save a little leg power during the race for your pre- or post-race itinerary for visiting more of what Patagonia (or your race destination) has to offer (see Further Adventures)

ESSENTIAL KIT?

■ **A synthetic warm jacket** is mandatory and for good reason. I used the Nano Puff made by Patagonia. Unlike down, it is well-suited to wet conditions where you may be moving slowly over difficult ground. It is also lightweight and highly compressible. The company offer a fantastic, environmentally friendly and free repair service for all their kit.

■ **Your rucksack is everything.** Make sure it has enough pockets so that your essential items are separated and are easily accessible. This will save you time and avoid you having to take everything out in the rain. Chest or waist mounted pockets are a bonus and can be used to store food and clothing like gloves which can help you regulate your heat without taking your bag off. I used the increasingly popular Ultimate Direction, Peter Bakwin Vest – the largest race bag in their range (sizes come up small).

■ **Waterproof Jacket.** The North Face's Feather Lite Storm Blocker with hood was a minimalist's choice. I run warm though, and others may want a slightly heavier jacket that offers insulation as well.

■ **Sunglasses,** even when it is overcast can be really useful on a glacier where there's a lot of glare. It is also nice to reduce the level of light stimulation you receive when out for so many hours of the day. They can also protect your eyes in case of a fall. I used Colorado shades by Julbo, which I like because of the additional wrap around eye shields.

GETTING TO ULTRA FIORD

■ **Fly to Santiago,** Chile and then on to Puntas Arenas. From here it is a further three-hour bus transfer north to the trekking hub and race headquarters at Puerto Natales.

■ **Fly to Buenos Aires,** Argentina and then onto Ushuaia (see Further Adventures). Travel across barrenly beautiful Tierra del Fuego by bus or hire car (6.5 hours) and then take the ferry to Puntas Arenas across the Straits of Magellan then follow above.

■ **Fly to Santiago** and then travel overland by affordable and very comfortable sleeper bus to Puerto Montt (10 hours.) From here take the incredible Navimag three-day ferry through the fiord region to arrive at Ultra Fiord in incredible style!

FURTHER ADVENTURES

From race basecamp in Puerto Natales

■ **Torres del Paine National Park** is a two-hour drive or bus transfer. Complete the world famous "W" trek as a stiff warm-up for Ultra Fiord!

■ **The Perito Moreno glacier** – the only advancing glacier in the world that carves off spectacularly with gigantic splashes into the sea. This is another two and a half hours north from Torres del Paine.

■ **Picturesque Ushuaia** is the southern most city in the world. Regular boat trips leave from here to explore Antarctica. It's 10 hours south by road.

Photo Leandro Chavarria



Photo Luis Espinoza



Matt Maynard is a travel and outdoor journalist living in Santiago, Chile. More info, Matt-Maynard.com or follow him @greenbeantrails

Photo Leandro Chavarria

TAKE THE HIGH ROAD

THE ETAPE CALEDONIA TRACES A DRAMATIC ROUTE THROUGH THE SCOTTISH HIGHLANDS ON ROADS CLOSED TO TRAFFIC. JONATHAN MANNING CLIPS IN FOR A HIGHLAND FLING.

Words Jonathan Manning





In the fevered pre-match atmosphere of an international rugby match players sprint, jump, even roll onto the pitch, a cocktail of exuberant energy and nerves. So when glowering Scotland captain David Sole slow-walked his team onto the hallowed turf of Murrayfield in the spring of 1990 for a showdown with the “auld enemy England”, his team’s warrior sense of confidence, dominance and alpha-male status was impossible to ignore. Sure enough, Scotland went onto win.

That slow walk scene flashes back across my memory as I gaze out of the train window on the journey to Pitlochry in the Highlands. Little by little the hills rise, the valleys deepen and the clouds descend. It’s a landscape equivalent of David Sole’s measured march, a geographical throwing down of the gauntlet... “Come and have a go if you think you’re hard enough.”

I’m on my way north to ride the Marie Curie Cancer Care Etape Caledonia, a sportive road ride through this region of rugged Scotland. The route itself is a cleverly plotted 80 miles where it’s only the scenery that’s heart-stopping, rather than the ascents. There are about 1,100 metres of uphill riding in total, including a timed “King of the Mountains” climb over the flanks of Schiehallion, a Munro with the perfect isosceles shape of a primary school painting of a mountain.

But there’s also Scotland in May to contend with; it could be as hot and breathless as a marathon runner crossing the finish line, or it could be as cold and wet as a swimmer

emerging from a loch. Weather on the eve of the race is the former, a day fit for Tourist Board brochures. The pre-ride buzz among the 4,000-plus riders arriving in Pitlochry along with their families is optimistic and excited. At registration it’s clear that many cyclists have brought their “Sunday best” bikes, and there’s a fleet of drool-inducing carbon on display. Riders who’ve followed the forecast all week have settled on their winter clunkers, which the Shimano technicians fettle, oil and tweak with the patience of dentists facing patients who never brush or floss.

By late afternoon the cafes are running low on scones, muffins and carrot cake; carbohydrate calories consumed on credit to be paid for in the morning. The owner of The Scottish Deli, a lovely coffee-and-cake stop on the main street, tells me the Etape creates the busiest weekend of the year in Pitlochry.

Dawn breaks “dreich”, which the Urban Dictionary defines as, “dull, overcast, drizzly, cold, misty and miserable weather. At least four of the above adjectives must apply before the weather is truly dreich.” Unfortunately a few more bad weather adjectives could also be added, as the day swiftly deteriorates as thousands of cyclists in full-on waterproofs congregate in the high street. Everyone has been allocated a starting wave, but civil disobedience breaks out in the rain as riders press for an earlier start than the one they’ve been assigned, and there’s only a school marmish lady perched in an umpire’s chair and armed with a loudhailer to keep order.

Thankfully, the mood lifts the instant cleats clip into pedals and the peloton rolls out of Pitlochry. The early miles pitch and roll, but for most it’s a time to find a “Goldilocks”

CHALLENGE ETAPE CALEDONIA

group that rides neither too fast, nor too slow, but just right for the ensuing 80 miles. Group riding is going to be tricky in these conditions though, with any slipstreaming rewarded with a face-full of road-dirtied rainwater flung from the wheel in front. In this situation, a rider with a rear mudguard has a more attractive behind than Beyoncé... and his name is Steve!

Steve's down from Liverpool with mates from the St Helen's cycling club, and amid the spray and slipping brakes he tells me about former Etapes Caledonia under blue skies. Frankly, it's unreasonable to come to the Highlands and expect Hawaiian weather, and it feels vaguely heroic to squint through the rain at snow on the north-facing hilltops. This is no land for softies.

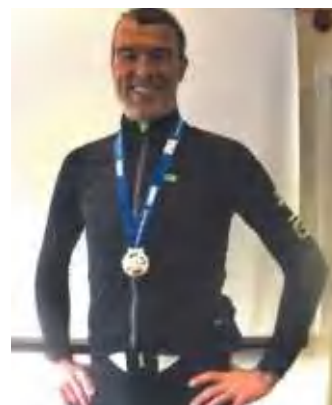
It is, however, a surprisingly fast ride. The group I'm in keeps the pace ticking over at 20mph, most sharing their duties on the front. The speed won't last, of course, but fast, early miles always boost the feel-good factor. We're barreling alongside Loch Tummel, it's pewter surface the perfect backdrop for the copper-coloured bracken on its shores. This may be early May, but spring is still in its infancy this far north, the daffodils in full bloom a stark contrast in Lincolnshire where the bluebells are starting to wilt.

We're barreling along Loch Tummel, it's pewter surface the perfect backdrop for the copper-coloured bracken on its shores.

Loch Tummel gives way to Loch Rannoch, a brooding expanse of water below mist-shrouded hills and mountains. Schiehallion is here somewhere, a 3,547ft (1,083m) peak, but I can't spot it yet. I was here in 1999 for my honeymoon and can vouch for both the staggering beauty of the landscape as well as the mercurial weather.

Embedded in a decent group of riders, I follow their lead and sail straight past the first two generously stocked feed stations. But when I stop for a quick pee-break I lose them and their free speed for the rest of the ride. As a gentle headwind flings the downpour into my face, I decide that Rannoch is no place for a solo spin, but it's a while before I can latch on to another Goldilocks group. In the meantime I wonder how long it will be before sunglasses get mini-windscreen wipers.

Schiehallion announces itself with an Endura-sponsored arch and a bleep from the timing mat. This is the King of the Mountains climb, a timed ascent, and derailleurs clatter into the granny ring as the road rises skywards. For *Strictly* fans (come on you do watch the show!), the climb is the opposite of the foxtrot's quick-quick-slow – this is a slow-slow-quick affair as brief plateaus offer a short-lived chance to catch breath, before the gradient rises again. My rear-wheel spins on the greasy road if I stand out of the saddle, so I grind out the pedal strokes seated until a finish mat bleeps to tell me that the ordeal is



over.

Except it isn't. The ramp may have terminated, but we're high in the clouds now, exposed to a stiffer breeze. I haven't been able to feel my toes for at least half an hour – they're genuinely swimming in my winter boots, and they're not responding to brain messages for a wiggle. The feed station at the 50-mile mark gives me a chance to stamp some circulation back into my feet as I wolf half a banana and stock up on gels and flapjacks.

From this inauspicious position, high above sea level, the finest stretch of the Etape Caledonia follows. For this is an event on roads closed to traffic, which means no fear of oncoming vehicles. Time then to spend all those metres of ascent banked during the climb of Schiehallion on a thrilling downhill blast. It's exhilarating to descend as fast as my nerves and riding skills will allow, my brakes scrubbing off speed at the end of straights before I swoop around bends. At the bottom I feel like the child at the end of a fairground ride who clamours "Again! Again!", but there's no easy way back to the top and there are still 30 cold, wet miles ahead.

A tall Yorkshireman, who now lives in Aberdeen, catches me up, the ideal windbreak to draft behind, and we agree to work together with the intention of catching or forming a peloton. By luck more than

judgement our plan comes to fruition as we charge through the village of Dull, wittily twinned with Boring in the USA. On a better day it's pretty enough to melt your heart.

"Watch out," warns my Yorkshire friend as we approach Logierait. "In the next village there's a 90-degree turn to the left that's wickedly steep. You'll need your lowest gear."

I'm grateful for the advice, the incline is indeed spiteful, particularly for legs with 75-plus miles in them. Yet here, as there has been all day, roadside support is tremendous with locals and families cheering on riders. Three times we've even been serenaded by bagpipes, and if there's anything more evocative than riding through the Highlands to the echo of pipes, I can't imagine what it is.

Forest soon gives way to suburb as we reach the outskirts of Pitlochry. The crowds are bigger, my muscles are cramping, and a tannoy calls for a finish line smile before army cadets whip the timing chip off my bike and a steward hangs a medal around my neck. I wear it with pride – this has been a tough experience.

The medal is still on my desk, a ribboned reminder to mark this year's Etape Caledonia in my diary. This is a ride that deserves to be seen at its finest.

■ To register your interest in the 2016 Marie Curie Etape Caledonia (last year places sold out in 58 hours) visit, etapecaledonia.co.uk

Swashbuckler 2016

Middle Distance Triathlon

15th May 2016

Swim 1.9km, Cycle 90km, Run 22km



"The only UK race I would come back to year after year..."

Further information & entries at:

www.racenewforest.co.uk



SILVINI®

TECHNICAL SPORTWEAR
SPRING/SUMMER & AUTUMN/WINTER

DISTRIBUTED IN THE UK BY

John Roberts

MEN

WOMEN

JUNIOR

ROAD

MTB

URBAN

RUNNING

XC SKIING

ACCESSORIES

Shop Silvini
On Amazon



amazon.co.uk

@JRobertAssoc John Roberts Associates Ltd

www.johnrobertsassociates.co.uk

TRAIL BLAZER

Nikki Kimball is one of the most well-known ultra runners. She's been at the forefront of the sport and the pack for many years. Ian Corless spent half a year with her to discover what makes her tick.

Words & Pictures Ian Corless

U

ltra running is not a new sport! Pedestrian events date back to the 18th and 19th century, and they were huge spectacles that pulled in crowds of thousands

who would drink and bet while runners would cover vast distances often over multiple days. For example, the Comrades Marathon in South Africa (Comrades.com) has incredible history that dates back to 1921. However, trail and mountain running is a much newer sport. Of course, men and women have always gone to the mountains but back in 1974, an uncompromising Gordy Ainsleigh decided to run 100 trail miles off the cuff.

Ainsleigh has since been credited as the founder of the 100-mile distance. He says it all came about by accident. He had planned to race (actually ride) the Tevis Cup; a 100-mile point-to-point horse race that ran from Squaw Valley to Auburn in the USA. A lame horse unfortunately scuppered Ainsleigh's plans and not wishing to miss out, he decided to run the event, on foot! He completed the distance in 23 hours 42 minutes. The modern day 100-mile trail run was born.

The Western States Endurance Run (WSER.org) has become an iconic race in the sport of ultra running and with it

legends have been made, for example, Scott Jurek and Ann Trason.

But in 1971, just a few years before Anisleigh's inaugural run, a woman was born who would not only shape the sport of ultra running but create an impact that would inspire runners all over the world and additionally trail-blaze a path forward in the sport for women.

Nikki Kimball was destined to be a sport's heroine. Originally a cross-country skier, Kimball ventured into the world of trail running in 2001 but it was in 2004 when she entered the Western States that heads turned due to her victory. This followed with repeat wins in 2006 and 2007. Over the years, Kimball has run the race ten times and up until 2015, where she finished tenth, had never been out of the top five. In 2007 she won the Ultra Trail du Mont Blanc and became the first American to do so. And there's more: Kimball won the iconic Marathon des Sables in Morocco (marathondessables.co.uk) at her first attempt and the Run Rabbit Run 100 miler (runrabbitrunsteamboat.com).

An inspiring lady, her dominance in the sport has not been without its ups and downs. Injury provided Kimball with some tough years and in addition, depression has paid a huge part in her desire to be the best. Maybe running provided her with the opportunity to run away from the low points.





"Kimball has never excelled over shorter distances; give her tough, long and gnarly any day of the week and she is happy."



WHAT MAKES KIMBALL TICK?

So what really makes this lady tick? How does she function and survive in such a tough and demanding sport? I followed Kimball over six months and documented her journey back to Squaw and the iconic Western States.

SNOW TO TRAIL The transition from snow to trail is never an easy and seamless one. Particularly when you add high temperatures, high humidity and a relentless multi-day journey across the Talamancas in Costa Rica. The Talamancas Coastal Challenge (TCC) over the years has become a must-do race for those seeking a running experience that combines challenging terrain with a relaxed approach. Like the Marathon des Sables, the TCC combines multiple day racing but in a non self-sufficient manner. Clothing, tents and all equipment is forwarded daily to each respective base camp and food is provided. This allows the runner to run and not be weighted down with a pack of 6kgs plus.

"I loved racing at MDS. It was a wonderful experience and it certainly had me wanting more. I raced the Jungle Marathon (Brazil) years ago and that was tough. However, racing here in Costa Rica has been a blast. It has allowed me to find my early season legs while testing myself in an incredible new environment," Kimball explained on the final day after placing second overall. "I was coming into this race off skis and cold temperatures so it was always going to be tough. But as the days have passed I have felt better. Don't get me wrong it has been tough. The terrain here is very demanding and I have found the heat and humidity very hard. Although not self-sufficient, I think this has been a harder race than MDS."

Combining work, training, racing and a busy schedule has been the norm for Kimball over the years but she has realised that she can no longer go from one race to the next as she did in the past. "Oh jeez, I used to race weekly, I have now realised after injury and surgery, and with an older more wiser head on my shoulders, that I need to be more selective. That's not to say I won't participate in many races, I just need to be selective when I race and temper my competitive spirit."

A solid block of training followed the TCC, and Transgrancanaria was the next objective. Part of the UTWT (Ultra Trail World Tour), the race has become one of the early season ultra highlights, that provides lovers of the sport with an early glimpse of who is in form. Kimball knew the course would suit her. It's a tough one with some relentless climbing, technical trails, and it is over the important 100km distance. Kimball has never excelled over shorter distances; give her tough, long and gnarly any day of the week and she is happy. A hot favourite, Kimball's presence on the island of Gran Canaria was eagerly awaited. However, flight delay after flight delay saw the lady from Montana arrive just the night before the race looking tired, fatigued, exhausted and jet-lagged. Starting the race at midnight the writing was soon on the wall when over the first 30km Kimball battled with fatigue and sickness which ultimately saw her withdraw.

"I would say I am no quitter and I no longer judge people, including myself for dropping. I think many of the decisions I made in the first 10 years of my ultra career I now see weren't justified. Sometimes you just have to make a sensible call. I was going

nowhere fast in this race and it was just too long to battle through. It would have taken me to a low point physically and mentally and would almost certainly have impacted on later objectives."

It was the correct decision. Kimball explained: "My schedule is crazy at the moment as I am also promoting my new film, *Finding Traction*. I have recently been in Madrid and Tunisia to show the film and Chili at Trails in Motion and I now follow on from Gran Canaria with a trip to the UK to show the film at SHAFF, Sheffield Adventure Film Festival." (Info correct at the time of writing – SHAFF took place in March 2015.)

FELL LIFE It's great to have Kimball on UK soil and I met up with her in Sheffield. Speaking at one of the many talks, Kimball explains how life in ultra running has been a tough one for a woman, "I would see men get more prize money, more press, more public relations and I would be sidelined with maybe a line or a small photo while journalists would write about the main story; the men! It was as though we (ladies) or I didn't exist. The sport of ultra running has certainly progressed and I am active in providing women in sport a voice. It's important!"

Never a person to shy away from a viewpoint, Kimball backs her words with the first showing on UK soil of *Finding Traction*. It's a movie that documents Kimball's attempt at a FKT (Fastest Known Time) on the Long Trail in Vermont. A 273-mile journey in Vermont's beautiful but brutal Green Mountains. What evolved from the experience is so much more than running. In the movie we get an insight into Kimball's



fragile nature and the battles she has with depression. But all along there is a driving force; an obsession to succeed and boy-oh-boy can this lady take pain!

"I went to some dark places in the process of the movie and I allowed the director complete autonomy to edit it in a way that she felt appropriate. It would have been wrong to interfere. At times I don't like the person that I see on the screen. Nobody is perfect but the movie has allowed me to look at myself from the outside looking in and I hope I can learn from that."

Fell racing in the UK has a long tradition and Kimball has read about and heard stories of fell legends such as Billy Bland and Joss Naylor. "I've always wanted to do a fell race and when the opportunity arose to combine a short race with my trip to the UK, I jumped at it," said Kimball while taking a well-earned break in Sheffield. "I fully realised that the race would be a way too short and fast for me but what a blast! I just love the concept. Turn up in a field, pay £5, run up a hill in the most direct way, run along the ridges and then come back down the most direct way and all the while trying to go as fast as you can. It's a pure and simple sport and I absolutely loved the experience. I only wish they were 100 miles long."

Months passed, Spring arrived in the UK, and with it Kimball's thoughts turn to Western States. "It's my tenth time at the race and it will be a special one. It's my main focus of the year and I am so looking forward to it. Samantha Gash (Australian based runner who Kimball raced against at TCC) will pace me. But I have two races ahead of me, the Ultra Fjord in Patagonia and then the Richtersveld Wildrun in South Africa."

GOING WILD Ultra Fjord turned out to be an undertaking too far. Kimball had a frightening experience at the race and was very vocal about some of the issues that faced the runners. "It was just dangerous. Don't get me wrong, I love a challenge and I love to be tested but I don't like to risk my life and be placed in a situation where those around me are at risk too. Let's just say lessons need to be learnt at Ultra Fjord. I made the decision to withdraw from the race after finding a runner on the course that needed help. I did the only appropriate thing I could and helped him." (Turn to page 32 to read another runner's account of the Ultra Fjord)

A physio by trade, Kimball is very aware of the physical demands that running places on a human and she takes great pleasure from helping those around her. She keeps clients injury free over long running lives. "It's important to help others. That is why I love my job. It's connected directly to my passions in life and it's just so incredible and inspiring to see my clients both on the physio table and from a coaching perspective excel."

South Africa and the Richtersveld Wildrun afford Kimball with a final jigsaw piece before Western States. A 4-day race in the Ais Richtersveld National Park situated on the Orange River and just across the border of Namibia; the race provided Kimball with a final outing to test her legs, heart and lungs before her final prep phase to the big WSER.

A navigation race (via GPS) the Richtersveld Wildrun is a hidden gem. The Ai/ AIS/ Richtersveld National Park is an area of outstanding beauty that is seldom seen or explored. To race in this place is like

running through time. "It's been an incredible journey, the terrain, the scenery and the weather have been challenging and inspiring," said Kimball post race.

Unfortunately a navigational error on day 1 whilst in the lead cost Kimball the race, she finally finished the day in fourth having given away a huge chunk of time to eventual winner, Katya Soggot. "These things happen. I have no one to blame but myself. I had a lapse of concentration and paid the price. However, I put my head down and clawed my way back to second overall in the following days. I'm happy with that! I am leaving South Africa with an incredible experience, four brilliant days racing and 150km in my legs. Roll on Western States!"

TOP 10 Roll on Western States indeed. It's a privilege to spend time with a legend of the sport of ultra. "Legend"; it's an over used word, and one that can cause confusion. In Kimball's case I use the word in its purest form, as someone to look up to and aspire to. Talent is God given but you still need to work at it and sacrifice and persevere to make the most of it. Kimball has used that gift, embraced it and in doing so has left a legacy and continues to add to that legacy with each relentless forward motion.

"I want to continue running and that doesn't have to be racing. The simple act of placing one foot in front of the other is so beautiful and magical that I never want to be without out it. The world is a wonderful place and running has provided me with a doorway upon it. Long may it continue!"

As indicated Kimball came a very creditable tenth at last year's Western States.

THE ULTRA ULTRAMARATHON RUNNER

AS ULTRAMARATHON RUNNERS
GO, DEAN KARNAZES COULD
PROBABLY OUTRUN THEM ALL.
NILUFER ATIK FINDS OUT HOW.

Words Nilufer Atik



In most endurance races there inevitably comes a point when an athlete feels he or she can go no further. Known as hitting the wall, or the “bonk”, it occurs when glycogen stores in the liver and muscles drop so low that each step, pedal or swim stroke requires gargantuan effort. We’ve all been there. All except Dean Karnazes that is.

Considered one of the world’s finest ultramarathon runners, this 52-year-old superman would probably fly right through a wall if he ever came across one, no matter how thick the brick was (or how low his glycogen stores were).

The outstanding athlete is considered a legend in the world of endurance sports, not only because he possesses an uncanny ability to cover distances most of us would tire of driving but because he’s done so under some of the severest conditions imaginable.

His accomplishments include a 135-mile race across treacherous desert land in the lowest, driest and hottest part of North America known as Death Valley and a 350-mile continuous run with no sleep for three days. Karnazes has also completed a marathon to the South Pole in minus 40 degrees C, a journey he describes as “like trying to find your footing in a tub of Styrofoam pellets” in his best-selling book *Run*.

A die-hard thrill-seeker for more than two decades, he has pushed his body and mind to inconceivable limits, yet he never, ever seems to get tired. Even on his off days he’s on.

“I’m in a constant state of training,” explains Karnazes. “On a good day I like to bang out a marathon before breakfast. I never sit down. My entire office is set up at waist-level and I do all my writing and emailing while standing up and bouncing around on my toes.”

His home office, from where he works as a consultant in the health food business, also houses pull-up and dip bars as well as a TRX® suspension trainer, on which he completes an “ass-kicking” circuit daily, before going for a second, shorter ten-mile fast run in the afternoon.

Also a competitive surfer and windsurfer, his gruelling training regime would leave most fitness junkies permanently suffering from DOMS (delayed on-set of muscle soreness). But Karnazes has never experienced any muscle burn or cramps. He didn’t even get sore legs after completing the marathon to the South Pole in 2002 – a torturous feat that would kill the limbs of many long-distance runners.

“At a certain level of intensity, I do feel like I can go a long way without tiring,” he explains. “No matter how hard I push, my muscles never seize up. That’s kind of a nice thing if I plan

to run a long way.”

Despite covering thousands of miles to date, Karnazes has also never suffered a stress fracture, shin splints, plantar fasciitis, or any stiffness. “I never stretch either,” he admits. In fact, the only thing that ever does force Karnazes to rest is his biological need for sleep. And even that he can do on the move. In his first book *Ultramarathon Man*, Karnazes recalls one moment during the 19-mile Providian Relay in California when the only shut-eye he got was drifting off two thirds along the way. He was woken by a car horn behind him.

“I’ve experienced a few bouts of ‘sleep running’, where I sleep while in motion. I just will myself to keep going.”

Most experienced long-distance runners will only be forced to a standstill due to injury or because they’ve gone well beyond their lactate threshold (or hit the wall), and simply can’t move any more – their bodies no longer able to convert the lactate they produce back into energy, resulting in acidity overload in their muscles. Even Olympians have this limit.

So how does Karnazes, who has run further than any other human being in recorded history, seem to bypass this natural mechanism and keep going beyond the bounds of ordinary human capability? Is he superhuman as some of his fans believe? Well, kind of.

In an attempt to discover why his muscles never tire, Karnazes underwent a lactate threshold test at a human performance centre in Aspen, Colorado, in 2013. Sports scientists analysed his body’s ability to maintain normal lactic acid levels for extended durations. His results were off the charts.

“They said they’d never seen anything like it before,” Karnazes explains. “As one researcher put it, it meant that I was ‘built to run forever’.”

This astounding difference in Karnazes’ lactate clearing abilities is probably genetic, and he believes, partly down to the fact that he has extremely low body fat (it’s currently at four percent, way below the average for an athletic man his age), a high alkaline diet and low exposure to environmental toxins.

The fact that his physique is that of a finely tuned machine undoubtedly helps though. Not only does Karnazes train rigorously every day, he also follows a monk-like food plan, comprising tofu, soy yogurt, salads, fruits and vegetables and organic wild Alaskan salmon. He used to ingest around 2,800 calories of junk food to maintain his energy levels during long runs and was famed for receiving takeaway deliveries en route. But that, he promises, has now all changed.

“Basically, my current diet consists of only foods directly sourced from the earth without processing or refinement,” he



swears. “It wasn’t always that way. I used to eat loads of fast food and will never live down the time that I ordered a large pizza delivered to me while out on a long run. But people can change, and I’m a prime example.”

“Over the years I’ve gone from eating junk food to eating only real food. That means nothing from a can or a bag, or anything in a wrapper; just simple natural and organic foods and lean meat and seafood. Lots of seafood, and plenty of seaweed, too!”

The rest of his extraordinary ability, he puts down to an added helping of willpower.

“The mental challenge of running great distances is every bit as vexing as the physical element,” Karnazes explains.

“Mastering one’s mind and being able to overcome adversity and pain requires discipline and a certain stubborn doggedness. For me, I turn inward when the going gets tough and I try to be present in the now, tuning out everything except the current moment in time. I just try to be my best at that instant and not be distracted by anything else. It’s almost a Zen-like state.”

The father-of-two even views the boredom of continuous running as a test of perseverance, saying he “welcomes the fight”, no matter how dire his circumstances appear. One example was when he completed 50 marathons, in all 50 US states, in 50 consecutive days in 2006. Ironically, he says the hardest part of this experience was knowing what to do with himself on day 51. “I felt lost and hopeless.” So he decided to finish by running home from New York to San Francisco!

“The 50 marathons tested me in ways that I’ve never been tested before. And I learned a great deal about myself in the process,” he recalls. “Although it was a tremendous physical accomplishment, ultimately the journey was within.”

“Running these ultra-distances can be a real physical and mental roller coaster ride.”

For him the ride began 22 years ago, at a birthday party. While Karnazes had been a passionate runner at high school, he’d abandoned the sport when his beloved sister Pary, was killed in a car accident just before her 18th birthday. He decided to focus on building a stable career and having a family. But after a few years of corporate life, he was bored.

Then on the night of his 30th birthday in August 1992, something of an epiphany happened. Drunk and feeling low, Karnazes left the party early and decided to walk home. When he got there, he spotted a battered old pair of running shoes sat on the porch. Gripped by a powerful urge to run once more, he undressed down to his boxer shorts and vest, slipped the

trainers on and hit the open road for the first time in almost ten years. Thirty miles later, he came to a stop. His running mojo was back. “All my senses just came alive, I knew something big was happening.”

Karnazes continued to run regularly until he stumbled upon two Army Rangers doing sprint drills one day. Intrigued, he asked them what they were training for – their reply The Western States 100 ultramarathon. Keen to push himself, Karnazes decided to step up his training and enter. It was the beginning of a long love affair with ultra-running.

Since then Karnazes has raced and competed on all seven continents. Among his many accomplishments is taking part in a 200-mile relay solo. He raced alongside teams of twelve. In 2005 he ran 350 miles straight without sleep. He did it in just 81 hours and 44 minutes, averaging 13-minute miles. He says finishing that race was: “As close to an out-of-body experience as I’ve ever had.” He has staggered, crawled and vomited during some races and has suffered such huge blisters he’s had to plug them with superglue. But he won’t stop.

Off-season, Karnazes runs around 70 miles a week. When preparing for a big event, this distance is ramped up to around 120 miles. The bionic athlete refuses to let his training interfere with family time though – he survives on just four hours sleep a night to fit everything in. Sometimes, he’ll run throughout the night, making sure he’s back home to have breakfast with his family the next morning.

Many of Karnazes’ runs are organised as fund-raisers for charities like Action for Healthy Kids and he has raised over a million pounds so far. But despite approaching his mid-fifties, he has no plans to hang up his trainers just yet. Ever seeking a greater challenge than the last, the running addict now plans to embark upon a global expedition to complete a marathon in every country of the world in a year.

“There are 204 countries and I’m working with the US State Department and UN to get all the necessary passports and permits to be able to do this,” he says. “As you can imagine, the planning and logistics are every bit as complex and difficult as the running itself will be. But I’ve always told my kids to dream big, so I guess I’d better set a good example.”

Ask what drives him and he’ll give you a simple, if self-deprecating answer: “I’m not inherently talented. I’m not the brightest guy either. Really, the only thing I have is endurance, and I feel like the one thing I can offer the world is to run for great distances.”

“On a good day I like to bang out a marathon before breakfast. I never sit down. My entire office is set up at waist-level and I do all my writing and emailing while standing up and bouncing around on my toes.”



CONQUER THE UK'S TOUGHEST MOUNTAIN TRIATHLON

THE BEN NEVIS BRAVEHEART TRIATHLON

www.bravehearttri.co.uk



BOOK BY
MARCH 31ST
AND SAVE
£50!

ENTER NOW!

SWIM 1.2 MILE OPEN-WATER **BIKE** 56 MILE ROAD **RUN** 13 MILE TRAIL

17TH SEPTEMBER 2016

FORT WILLIAM, HIGHLAND PH33 7LY

SUPPORTED BY

triradar.com

Triathlon plus

Running Fitness

Outdoor Fitness

ENTER AS AN INDIVIDUAL BY MARCH 31ST AND **SAVE £50**

ENTER A RELAY TEAM BY MARCH 31ST AND **SAVE £30**

BOOK YOUR PLACE AT
WWW.BRAVEHEARTTRI.CO.UK

GET YOURSELF FITTER AND NAIL YOUR NEXT MAJOR EVENT

TRAIN



68

CONTENTS

56 Strengthen
Endurance

68 Technical running
Training apps

72 PB marathon plan

Core, it really works!

January is the time for New Year's fitness resolutions and many of us may take a look at our gut and think hmm, I could lose a bit there.

THE BEST WAY to lose excess stomach fat is to train aerobically and anaerobically. The CV training will blast away body fat whilst resistance training will increase lean muscle mass and boost metabolic rate.

The more lean muscle you have the greater the 24/7 calorie burning potential your body has. It's estimated that for every pound of muscle, your body burns up to an extra 35 calories a day.

So how can you boost your lean mass in a way that increases calorie burning, and improves your endurance pursuits and preferably outdoors? You could use a go anywhere suspension trainer, such as the TRX®.

Researchers considered the affects of suspension training planks (using a TRX) and non-suspension exercise planks (1). They measured muscle activation via electromyography (EMG) for 3-second holds. Twenty-one subjects performed four repetitions of floor-based planks (non-suspension), or planks with arms suspended, feet suspended and feet and arms suspended. The researchers discovered that, "...abdominal muscle activation was higher in all suspended conditions compared to the floor-based plank." More activation means more muscle fibres hit, upping potential for strength and lean muscle growth.

Another research team considered core activation in various TRX exercises (not just those focused on the core) (2). The exercises included the hamstring curl, chest press and 45-degree angle row. The sports scientists concluded, "...suspension training was found to generate relatively high levels of core muscle activation when compared with that among previous studies of core exercises on stable and unstable support surfaces."

So pack a suspension trainer with you on some of your run days and use it along your route, you'll get the best of all worlds, all whilst breathing in fresh air and shrinking your gut.





Eric Orton: Run free

The ultra-runner and “natural running” coach Eric Orton reveals how to galvanise your body for any run – from a 10k road run to a hilly trail-running adventure.

AMERICAN RUNNING COACH Eric Orton knew that his functional natural training methods had made an impact on the global running community when he was stopped halfway through a run in Hong Kong by a group of Chinese joggers. Orton had famously coached the injury-plagued journalist Christopher McDougall to race alongside the Tarahumara Indians of northwest Mexico – famed for their incredible natural running technique and stamina – in the 50-mile Copper Canyon Ultra Marathon (an experience which McDougall recorded in the hugely successful book *Born To Run*) and had become a well-known exponent of the natural running style used by the native Indians.

“I was running around Hong Kong, where you can easily run out of the huge city into amazing

hills seemingly in the middle of nowhere, when a group of Chinese runners stopped and started pointing at the minimal shoes I was wearing,” recalls Orton. “We couldn’t speak each other’s languages but I just said *Born To Run* and they completely understood. The impact of the book has been incredible, but running has its own universal language. Thanks to the internet, runners are a really tight-knit global community today.”

Orton, who lives in Jackson Hole in Wyoming, is an endurance coach and an ultra-runner who has completed notoriously difficult challenges like the Leadville Trail 100 ultra-marathon in Colorado. He adopted the system of natural running – founded upon good foot strength, short steps, a high cadence and a mid-foot strike – through trial and error, biomechanical

study and personal experience, even before he and McDougall had encountered the Tarahumara Indians.

To Orton natural running doesn’t automatically mean barefoot running or even require the need for minimalist shoes. It simply involves running in a natural style that harnesses the body’s innate muscular strengths. “Barefoot running is the component from the book that caught fire but different elements resonated in different ways with different runners,” he says. “Above all what appealed to people is the hope that they could run injury-free, that running was good for them, and that it was something they could get excited about.”

McDougall – who with the help of Orton and the example of the Tarahumara Indians remodelled his own running style to a more natural technique – refers to the core components of Orton’s training system as “engineering principles”. Put simply, in engineering, strength, function and efficiency



matter most. With over 50% of all runners suffering an injury every year, galvanising the strength of your feet and leg muscles, sharpening up your running form, and learning how to run more naturally is important for any runner – whether you burn up the roads in marathons or tear across muddy trails in off-road challenges.

“Foot strength is the foundation of everything,” explains Orton. “As runners we are on our feet every second of the race and so we are only as strong as our feet. We focus so much on training our legs that our leg muscles often over-dominate the ability of our feet – and that causes dysfunction. My philosophy is to do it the other way round: to train your feet first and get them strong so that your leg muscles start firing better. By training your feet you improve your ability to use your calves, to stabilise your knees, and to fire up your glutes – three things which are pretty much the Holy Grail of performance running.”

Orton says his multi-disciplined sporting

background helped to forge his natural running philosophy. He grew up playing baseball, hockey and American football and was a strong sprinter. He also competed in triathlons. Today he enjoys cycling, climbing and skiing but he remains an insatiable runner. “All these different sports have gone into my coaching methods,” he explains. “For example, my sprinting background helped me discover the best running form for endurance events, and the strength and conditioning work from my American football days helped me know how to build strength and avoid injury.”

After being asked to coach McDougall, the pair started to discuss the idea of working with the Tarahumara Indians whose natural running style enabled them to complete 200-mile runs injury-free. “I remember working with Chris and he was getting bummed out about all his running injuries and wanted to get help. We ended one day with the idea of going to the Copper Canyon and running with the Tarahumara Indians and that is how the whole

“To Orton natural running doesn’t automatically mean barefoot running or even require the need for minimalist shoes. It simply involves running in a natural style that harnesses the body’s innate muscular strengths.”

Born To Run idea started."

Although the Tarahumara people ran in loincloths and huaraches (sandals) made from cut-out pieces of tyre lashed to their feet with leather straps, Orton was fascinated to learn that many of the fundamental principles behind their running style - quick steps, a mid-foot strike and impressively dynamic leg power - were similar to the methods he had been promoting. "Initially I was frustrated because I think I expected to go down there and turn a corner and find the Tarahumara training manual lying on the ground. But we could not find much information about them. Because of this lack of knowledge, the Tarahumara have a real allure and aura about them. But it ended up being quite affirming as I realised that what I had been thinking in terms of running style was very similar to what they had been doing for a long time in a very natural way. How they trained and built strength was just a part of their daily life but I realised it was something people could learn from."

"As runners we are on our feet every second of the race and so we are only as strong as our feet. We focus so much on training our legs that our leg muscles often over-dominate the ability of our feet.."

Orton has enjoyed some extraordinary personal running adventures around the world. He can remember getting caught in a lightning strike in Colorado. "I was running on one of the 14,000ft mountains which are quite rounded and exposed and we got caught in a lightning storm with nowhere to hide," he recalls. "We can all deal with the elements but in a lightning strike you feel very vulnerable. It doesn't matter how tough you are."

He has also run up an active volcano in

Nicaragua in the Fuego y Agua ultra race. "I was running on Ometepe Island which has two volcanoes on it - one is active and one is dormant. Running from a dry and arid volcano to a wet, muddy and misty volcano was a pretty cool experience."

Above all, he loves running around his home in Jackson Hole. "On a run I might see moose and other animals - it's a real wild west. Around here mountain lions are quite real and you sometimes get the feeling of being watched which is pretty creepy," he says. But one place still remains on his hit-list: "I am desperate to come to the UK - I really want to go to the Lake District. There is so much cool stuff there to run."

Finding new challenges and new adventures is all part of the natural running philosophy that Orton adheres to. For him, fun in the great outdoors and natural food are as important as natural running form and an efficient technique. "Running is about self-discovery as well as fitness and form," says Orton. "Every run is a new adventure."



ORTON'S 3 TIPS TO MAKE YOU A STRONGER, SMOOTHER AND FASTER RUNNER

To help you prepare for your own running adventures, Orton shares his top training tips to make you a naturally stronger, smoother and faster runner.

1 BOOST YOUR FOOT STRENGTH

"Without good foot strength you won't be able to properly fire your calf muscles, stabilise your knees or activate your glutes. Your feet influence the performance of your muscles all the way up to your hips. This isn't about the barefoot running style. Regardless of how you personally run, everyone needs to be on their forefoot during a run, whether it is through your push-off strike or your landing, so the lesson is universal. You are only as strong as the force and power you can generate through your feet. Try these exercises to boost foot strength."

Balance Drills "A simple exercise is to balance barefoot on one foot – it sounds easy but you will soon find out how good you are. When you improve, you can move onto trying it on slant boards and wobble boards."

Barefoot Runs "Over time it is also good to introduce barefoot runs on grass into your training, or short 20- or 30-minute runs in minimal running shoes. You don't have to run in them all the time but consider them as a strength-building tool."

Stair runs "Try running up stairs in your bare feet. It's a great way to build foot strength and it teaches you to land on your feet more naturally which builds strength and athleticism. Play around with it by jumping up a few stairs so you are working your power as well."

2 IMPROVE YOUR TECHNIQUE

Speed drills "A lot of runners don't improve their performance because they never infuse faster running into their training regime. When you go out for a run, try to introduce 10- or 15-second sprints intervals. By speeding up your training you will improve your fitness but also sharpen up your strength and almost "lubricate" your natural running form because you have to run more



efficiently. If you do lots of sprints you start to dread them but 10- or 15-second efforts are easy enough to get through."

Mile runs "The best predictor of your running speed is your mile time. If you get better at your mile time you will also improve your speed in endurance events. The biggest mistake marathon runners make is to build up their volume but forget about building their speed."

Foot strides "A common mistake runners make is to over-stride and reach out too far ahead, which means your ankle and foot extends past the knee. It is better to shorten your stride and keep your foot placement directly underneath you. Start by

simply running in place then try to replicate that as you run. Aim for a good cadence too. I find that about 90spm (strides per minute) is about right for me. Just count the number of strides every 15 seconds and aim for about 21-23 foot strikes."

Slow runs "If you want to improve your running technique, learn to run slowly but well. To do that, go out for a run but try to breathe with your mouth closed. That puts a limit on how fast you can run. You only need to do it for 5-10 minutes but you will be running slowly enough to self-diagnose your technique. Try to work on key principles such as shortening your stride and keeping your footstrike underneath your body."

3 OPTIMISE YOUR PERFORMANCE

Eat clean "Nutrition is an important part of your performance. A good meal I had the night before a recent run was brown rice and sweet potato with chicken and sausage. It gives you the carbs to burn on your run but also has a good balance of protein and fat too. For breakfast I might have oatmeal with cashews and honey and maybe some eggs for protein. After a race I like salads with lots of vegetables and some fish such as salmon."

Use natural fuel "I think it is best to train your body so that it is reliant on burning natural body fat for fuel, rather than trying to get lots of carbs into your body during a race. If you train your body to be self-sufficient and use its natural fuel sources you will be able to run longer. For me that just means going for a steady three-hour run without fuel so that your body learns to fuel itself. If I eat on the run, I like something natural like a nut-based bar with cashews and dates."

Learn how to conquer pain "It is important to remember that no good or bad feeling lasts forever. Even if you are hurting on a run remember that it won't last all day. Part of why we run is to see how we respond to challenges in life so embrace that. I find it helps to think about what is going on in your body. If you are suffering, do you need to eat, drink or adjust your form? Listen to your body and take action."

Your goal should be tough

"If you struggle for motivation then it is good to have a goal that scares you a bit. The most important thing is to train consistently. That is easy when you feel good and the weather is warm. But when it is raining or you aren't feeling motivated, the best thing is to have a goal that forces you to get out and train. It's helpful to wonder if you can do the challenge so choose a big goal that carries the right amount of excitement and fear."

Eric Orton is an ultra runner and coach. Read his book *The Cool Impossible* and for information on his mountain running training camps go to, runningwitheric.com

Strengthen your endurance

Helen Jenkins does it, Holly Rush does it, Mo Farah does a lot of it, Seb Coe swore by it. Can strength and conditioning make you a better endurance athlete?

MANY EVERYDAY ENDURANCE athletes do little S&C, after all it's often argued why should they lift weights, do plyometrics (jump exercises) and other types of resistance-based S&C, when you're going to be running for three hours plus, for example. Then there are endurance types who do a little. However, if weights are used they're often light, and the emphasis is placed on performing many repetitions. Now, this really turns strength training into another form of endurance training.

To many it seems logical that if you are to determine performance in your sport by the ability to keep going for a long time, engaging in strength training may be a pointless and possibly even detrimental pursuit. And if we consider how traditionally society has dichotomised "weight training" and "cardio" it's unsurprising that people often look at strength and endurance as separate and distinct components of fitness. We have long conceptualised endurance sport and fitness as being only about the heart, lungs and circulatory system, and strength training as

being purely about the development of our muscles. So with this perception prevailing, why would anyone logically see getting stronger as important to the development of endurance?

Societal assumptions regarding what strength training is have also exacerbated this. For many, it conjures up images of muscle-bound bodybuilders and weightlifters - the polar opposite of the sinewy endurance athlete. Thus the belief that resistance training may even be detrimental to endurance athletes has permeated through a number of endurance sports.

In recent times, however, there has been a bit of a sea change in thought regarding the role of strength training for endurance sports and activities. Supported by strong academic, peer-reviewed evidence some of the leading lights in the fields of S&C have promoted the benefits of strength training to performance in endurance sports. Michael Winch's very good book, *Strength Training for Athletes*, for example, has a wonderful picture on the cover of Paula Radcliffe squatting with 80-100kg.



“Endurance athletes spend so much time engaging in endurance training, what is the point of just doing even more endurance training in the gym?”

SO SHOULD ENDURANCE ATHLETES AVOID STRENGTH TRAINING?

My answer would be absolutely not. There are so many potential benefits, which I'll indicate later. In fact I'd argue that to not strength train is almost definitely a mistake that no endurance athlete can afford to make. Can strength training be in any way detrimental to an endurance athlete? If applied incorrectly then of course it can but I believe if done correctly and relevantly strength training can be potentially hugely beneficial.

So should strength training be structured with a focus on endurance? No, and I hope to build a convincing argument that in fact, an endurance athlete should approach strength training with a focus upon the development of, perhaps shockingly to many *Outdoor Fitness* readers thoughts, strength (as opposed to just more endurance).

Permit me to pose you a conundrum. We have two athletes, "A" & "B", and we ask them to perform as many repetitions of the bench press as possible with 30kgs. Athlete A has a one repetition maximum (1RM) bench press of

150kgs whilst athlete B is much weaker with a maximum bench press of only 60kgs. Which do we think will perform more repetitions, i.e. have the best endurance, with the 30kgs? Well, my money is firmly on athlete A. They only have to lift 20 percent of their maximum and thus will fatigue far less quickly than athlete B who is contending with fifty percent of their's. That one example alone clearly illustrates how being maximally stronger can have a significant impact upon endurance ability and why we need to work with heavier loads for fewer repetitions, trying to build real strength. Endurance athletes spend so much time engaging in endurance training, what is the point of just doing even more endurance training in the gym? And non-specific endurance work at that. What you do on the bike, on the roads, in the boat, or in the water is what develops your endurance; the gym is for getting strong, and I must add specifically strong. So whether we're pushing a pedal; decelerating and accelerating our entire body mass through one leg when running; pulling ourselves up a wall doing an OCR; or propelling ourselves through water with every



Certain types of endurance performance, particularly those requiring fast-twitch fibre recruitment, can be improved by strength training supplementation.

leg kick and arm stroke, if we are stronger, every single one of those actions (and more) will be at a lower percentage of our maximum strength and therefore, all else being equal, we will fatigue less quickly. Make no mistake, whenever we are executing those sporting movements we are performing repetition after repetition of resistance exercise, and whether that resistance is provided by inanimate weight, or water resistance, or our body mass and gravity, or friction and gearing in cycling, it makes zero difference. Resistance is resistance is resistance, and the more easily we are able to overcome it, the less quickly we'll fatigue.

Notable evidence suggests that strength training improves endurance by improving "work/performance economy". You will probably of heard of the terms "running economy", "cycling economy". You can parallel these to fuel economy in your car, i.e. if you boost your running economy, less fuel will be required at any given performance level and thus your endurance capacity is greater.

A 1999 study from Finland took two groups of endurance runners and strength trained one using a variety of explosive strength exercises and jumping activities. The strength exercises used were loaded jump squats, leg presses and leg curls and extensions. After 9 weeks of training the strength trained group significantly improved their 5km time. This improvement in performance was concurrent with and correlated to a significant improvement in running economy. In layman's terms they were stronger and thus more efficient runners. Every single step, with each associated deceleration and acceleration of their body weight, was easier to perform and they used less energy.

A comparable study from France, published in 2002 found corroborative outcomes in regard to running economy. And in 2002 and 2007 similar studies showed endurance performance and work economy increases in cross-country skiers

following strength training. Interestingly, a Canadian research paper from 2000 also showed an increase in capillarisation of skeletal muscle. Capillaries are the tiniest blood vessels that supply oxygen and nutrients to working muscle tissue and remove waste products. The more you have the more oxygen carrying highways you have.

A 1988 study involved cycling and running trained endurance athletes. Half were heavily strength trained three times per week for 10 weeks in addition to their usual training. As before, significant benefits to short (4-8min) and long term (10km cycle) endurance resulted. Across the 10 weeks an increase in leg strength of 30 percent was also recorded yet interestingly zero increase in muscle bulk was observed, which may be contrary to the perceptions many people hold regarding strength training. This led these researchers to conclude: "These data do not demonstrate any negative performance effects of adding heavy-resistance training to ongoing endurance training regimens. They indicate that certain types of endurance performance, particularly those requiring fast-twitch fibre recruitment, can be improved by strength training supplementation." In 2010 Danish researchers published a review paper in which they meticulously collated, compared and summarised all of the research in this area, they concluded that "strength training can lead to enhanced long-term (>30 min) and short-term (<15 min) endurance capacity both in well-trained individuals and highly trained top-level endurance athletes, especially with the use of high-volume, heavy-resistance strength training protocols."

Hopefully this far from exhaustive selection of peer reviewed, published, academic studies effectively illustrates that strength training has the potential to be beneficial to endurance performance and that if applied correctly there are no detrimental effects.

IT'S NOT JUST PERFORMANCE BENEFITS

Performance is however not the only benefit to endurance athletes of strength training. If we take running, the impact forces experienced during each and every foot strike are between two and three times bodyweight. So if you have a mass of 70kgs you could potentially have to cope with instantaneous forces, through one leg, equivalent to over 200kgs! Now if you weigh 70kg, imagine trying to stand on one leg with a 130kg bar on your shoulders whilst hopping up and down! It's no easy task but this is what your lower limbs are being subjected to with each and every running stride. Is it any surprise then that in those new to endurance sport or those who have done little to no heavy strength training to condition themselves to contend with these forces, that the knees, hips and ankles struggle to cope? The IT band (iliotibial) and TFL (tensor fasciae latae) have become buzz words in sport, fitness and strength and conditioning, and foam rolling of this connective tissue, that laterally supports the knees and hips, is commonplace. However, simply rolling tension out of the connective tissue is just like taking a Paracetamol for a headache; all you're doing is treating symptoms, not addressing the root cause. When endurance athletes who are not strength trained are forced to contend with these repetitive impact forces they often struggle to cope. The muscles which stabilise the hip, knee and ankle are simply not strong enough, nor have they been "educated" as to how to engage to stabilise a joint under significant force loading. More volume of endurance exercise simply exacerbates the problem. Under these conditions the body's response is often to "emergency brace" these joints and it does this by tightening up the IT band and TFL. By, in effect, locking off these joints the body prevents the immediate injury risks presented by weakness but what results is pain in the connective tissues themselves and chronic dysfunction and imbalance in movement and thus joint pain. The closest analogy I can think of uses a car again this time with damaged suspension. Sure you could simply lock the suspension up so it wouldn't move, but in the long run the car would be shaken to bits. The most effective way to protect yourself from IT band and TFL tightness and the subsequent dysfunction is to get strong.

If applied inappropriately of course strength training can be detrimental to endurance performance but so can endurance training if employed equally poorly. Of course the focus for endurance athletes should be their endurance training. There is no need to employ excessive volume or frequency, nor to attempt absolute maximum effort lifts or even attempt to totally maximise strength. I will discuss potential best practice in part two of this article but it's suffice to say for now that you can significantly improve your strength, performance and injury resistance without excessive effort or commitment of time.

References

- Hickson, R. et. al. (1988) Potential for strength and endurance training to amplify endurance performance. *Journal of Applied Physiology*.
- Paavolainen, L. et. al. (1999) Explosive-strength training improves 5-km running time by improving running economy and muscle power. *Journal of Applied Physiology*.
- Bell, G. et. al. (2000) Effect of concurrent strength and endurance training on skeletal muscle properties and hormone concentrations in humans. *European Journal of Applied Physiology*.
- Millet, G. et. al. (2002) Effects of concurrent endurance and strength training on running economy and V02 kinetics. *Medicine and Science in Sports and Exercise*.
- Hoff, J. et. al. (2002) Maximal strength training improves aerobic endurance performance. *Scandinavian Journal of Medicine and Science in Sports*.
- Mikkola, J. et. al. (2007) Concurrent endurance and explosive type strength training increases activation and fast force production of leg extensor muscles in endurance athletes. *Journal of Strength and Conditioning Research*.
- Aggaard, P. and Andersen, J. (2010) Effects of strength training on endurance capacity in top-level endurance athletes. *Scandinavian Journal of Medicine and Science in Sports*.



Resistance, is resistance,
is resistance, and the
more easily we are able to
overcome it, the less
quickly we'll fatigue.

He doesn't train with power meters and only occasionally monitors his heart rate. Instead he simply listens and learns from the best computer there is, his own body.





Experience Matters

We all age. Plain and simple. Yet as the years accumulate perhaps we can use them to our advantage in endurance sports. So how do we do that?

ANDY MORTON WAS my biology teacher at school back in the late '80s. He seemed even then to be getting on a bit. His car sometimes had a kayak on it and at the time that was the sole extent of my knowledge of his sporting pastimes. Fast forward to now and he's a good friend through our shared interest in endurance sports. A year short of his 70th birthday, he remains one of Scotland's top marathon kayakers. His house is unsurprisingly littered with medals. I'm fascinated by how he continues to excel in his sport. Whilst his pure physical performance remains impressive, each of his races contain a wide range of strategic decisions, all of which help propel him to the front of the field. His training is also methodically planned and recorded. His mantra is an old one – "preparation is everything" – and he certainly leaves nothing to chance. Being a science teacher by trade, as expected, he loves his graphs and stats. He's clear that his actual physical performance has dropped over the years – he reckons by 1% per year from the age of 50 and by about 1.5% per year from sixty. To me, that's a remarkably slow decline and one that I'm sure has been significantly stemmed by his perfect use of experience.

Andy's certainly not as quick as he once was, but he remains highly competitive in his sport. He keeps a detailed diary of his training and racing, regularly referring back to it as he prepares for his next effort. He doesn't train with power meters and only occasionally monitors his heart rate. Instead he simply listens and learns from the best computer there is, his own body. His race nutrition is minimal and he's very focused on his weight, keeping it as light as possible.

Over the years I've had many coffee catch-ups with Andy, where we compare notes after our respective races, he calls them "Post-Mortons". My own tales seem to contain more and more pre-event planning and race tactics. He nods approvingly and I can see he's biting his tongue not to say, "I told you so!" It seems I am listening. He reminds me of similar experiences I've had in the past and uses them to very accurately predict how future races will pan out for me.

So in the outdoor activities and events world that we all love to do, how much does experience really count? I'm in no doubt that experience is frankly an astonishingly powerful tool in endurance sports but the big caveat to that is that you have to use that experience to its full potential. Andy does that to perfection. The march of time is inevitable and far too many of us succumb to the clear physical effects it has on us. I've seen plenty of guys in their mid twenties holding their backs or clutching their knees as they complain about age – what on earth are they talking about? There seems to be a sad resignation amongst far too many of us to stick one foot in the grave, at least in terms of physical activities, at a very early age.

On the other hand, older people like Andy who successfully harness their experience to the maximum can be seen at the start of races with a noticeable smugness on their faces. Pre-race nerves never seem to bother them. They've been here before... a lot. The younger competitors look all together different and are glad to see the Portaloos close by!

10 TIPS FOR THE EXPERIENCED

However, simply having experience is in no way a guarantee that it will assist you in your endeavours. In order to do as well as possible you have to use it wisely. Here are 10 key tips:

01 Choose the events and activities you do wisely. If you're looking for performance and a decent result, go long and chuck in things that sort the men from the boys – mud, cold water, mountains, that sort of thing. Short explosive activities are best avoided and seriously run the risk of injury as you age.

02 Don't forget that the best advice you can use is your own experience. What you've done in the past, how you have coped with it and what works best for you are all experiences that are completely personal to you. No book or coach can get close to that. Keep a record of your experiences and look back on those records regularly.

03 In my opinion the hardest person to take advice from is not our mothers or our other halves but is instead our self. Most if not all of us have a self-destruct button that we like to push; not listening to our own advice puts the finger on the trigger.

04 Don't forget the power of your years. My school rugby coach often told us (though I'm not entirely sure why, as it wasn't a great piece of advice for school kids) that: "A good old'un will always beat a good young'un". He was right and that advice does resonate with me now.

05 Remember that dark places tend to be a lot lighter if you've been there a few times before. First time pain is really sore; but after several years it gets a lot easier to manage and cope with.

06 The only way to work out what nutrition works for you is to try it, preferably a lot. Your years give you plenty of time to test all sorts of fuel.

07 Don't underestimate how much doing events and activities over a period of time gives you a professional edge, irrespective of your performance levels and ability. The body always adjusts and adapts both physically and mentally.

08 A body that doesn't ache is a body that isn't used. It's all part of the fun. In any case you've always had aches; it's only that as we age we like to have things to complain about. Come on – you know this is true!

09 Be realistic and accept that some things will decline with age. The trick is not to overly expose those in what you do and instead focus on the other aspects that strengthen with age. This is never more important than in relation to the mental approach required. In this lark, good mental tactics beat physical flexibility every time.

10 Take comfort that your experience will tend to aid you with safety in your adventures, limiting risk of injury and helping with self-preservation. You learn from your mistakes here. But please don't be that mega pedantic bloke that insists on catering for every single possible (or indeed impossible) scenario, and ends up putting vast swaths of us off from the outset! After all there's life in us still and we do like our sporting efforts to have a small element of risk to remind of us of that.



RACENEWFOREST EVENT SCHEDULE 2016

May 1st

Forca Lymington (Open Water Baths) Triathlon

Sea Water Baths, Lymington, SO41 3SE
500m Swim (Lido) / 20 km cycle / 5 km run

May 15th

SwashBuckler Middle Distance Triathlon

Bucklers Hard, Beaulieu, SO42 7XB
1.9 km Swim (O/W) / 90 km Bike / 22km Run

May 29th

New Forest Triathlon

Ellingham WaterSki / Moyles Court School, BH24 3NF
1.1 km Swim (O/W) / 33km Bike / 9km Run

New Forest Novice Triathlon

Ellingham WaterSki / Moyles Court School, BH24 3NF
400 metre Swim (O/W) / 33km Bike / 6km Run

June 12th

Lymington (Yacht Haven) Sprint Triathlon

Lymington Yacht Haven Marina, Lymington, SO41 3QD
750 m Swim (O/W) / 20 km Bike / 5 km Run

June 26th

Gladiator Triathlon

Bucklers Hard, Beaulieu, SO42 7XB
3.8 km Swim (O/W) / 180 km Bike / 42.2 km Run

BoskMan Triathlon

Bucklers Hard, Beaulieu, SO42 7XB
2.7 km Swim (O/W) / 125 km Bike / 21.1 km Run

Aug 21st

New Forest Triathlon

Ellingham WaterSki / Moyles Court School, BH24 3NF
1.1 km Swim (O/W) / 33km Bike / 9km Run

New Forest Novice Triathlon

Ellingham WaterSki / Moyles Court School, BH24 3NF
400 metre Swim (O/W) / 33km Bike / 6km Run

Sept 25th

New Forest Middle Distance Triathlon

Ellingham WaterSki / Sandy Balls Holiday Park, SP6 2JZ
1.9 km Swim (O/W) / 90 km Bike / 22km Run

Race entry and further details:-

www.racenewforest.co.uk

Contact:- jriles@racenewforest.co.uk



Take your performance to the next level with our passionate and experienced coaching team



www.suntri.co.uk

email: enquiries@suntri.co.uk

Complete Functional Fitness

Prevent Injury & Rehabilitate

70 engaging exercises

Core Joints Balance Proprioception Stabilising Muscles Tendons

more performance - less injury

Recommended by Running Fitness!

0117 949 8338 www.coolboard.co.uk

Lizzie Armitstead's Training Fixes

Commonwealth Games road race champion Lizzie Armitstead shares her top twelve tips for tackling cyclists' most common training and performance problems.

EVEN PROFESSIONAL CYCLISTS face many of the same troubles as amateur riders – from an early-morning lack of motivation to post-training aches and race-day nerves. Yorkshire cyclist Lizzie Armitstead, who stormed to a silver medal in the road race at London 2012, and in 2014 won the Commonwealth Games road race and UCI Women's Road World Cup double, knows what it's like to get bored of training and suffer on climbs. But she also knows how to power through those problems in order to get stronger, fitter and faster. Here the 26-year-old pro cyclist reveals how to solve every rider's training and race-day dilemmas.



01 THE PROBLEM: I don't always feel motivated to train...

Lizzie says: "I get out for a ride every morning at 9am because if you make training a routine or a habit you will always get out the door straight away. If I sit around thinking about it for too long I start to make up excuses. It's especially true if the weather is not good. It's better to get up and get out. It's also good to have somebody to meet because then you won't want to let the other person down – even if you're not feeling up for a ride. I meet my friend, the Australian cyclist Tiffany Cromwell, every morning so we always keep each other on track."

02 THE PROBLEM: I suffer when I hit the hills...

Lizzie says: "In technical terms, climbing is about your power-to-weight ratio so you can look at addressing one of those two components. The better your power-to-weight ratio, the better you will climb. For some, that might mean watching your diet, because even losing a few kilos will really help. I always eat three meals a day and never skip a meal but I'm careful what I eat. Others can focus on improving their power – try some capacity efforts which are just higher than threshold efforts and involve three, 5-minute bursts at your max. Remember, some riders can be really fit but struggle on climbs if they don't have the right rhythm in their legs. You need to climb as often as possible to find your best rhythm – I ride at about 85rpm."

03 THE PROBLEM: I never seem to have the time to ride...

Lizzie says: "When people have got 9-5 jobs it can be difficult to find the time to train, so the important thing is to make the most of the time you do have at weekends and in the summer the evenings. You can improve your fitness in a short hour-long session if you do interval training. During short rides I do a lot of 30-second max efforts, with minimal recovery (about 30 seconds), and repeat those intervals as often as I can. It's tough but really good for fitness. Another good session is to do two, 20-minute threshold efforts at close to your maximum effort. I really struggle with them but I know they make me better."

04 THE PROBLEM: I'm fit but I struggle for endurance...

Lizzie says: "If you are looking for endurance rather than fitness you need to get plenty of long rides in. That doesn't mean you have to go out for six hours every time. If you can get in three different 2-3 hour rides a week you will progress a lot better. It gives you the experience of being on the bike for a long time and it trains your body to fuel itself properly for a longer length of time."

If you can get in three different 2-3 hour rides a week you will progress a lot better.

05 THE PROBLEM: whenever I travel to a race I eat rubbish...

Lizzie says: "As a professional cyclist I have to travel all the time to races and I find that it's best to stay in control of what you eat. I will normally take my own food on a flight or bus journey because the stuff you buy out and about can be sickly and makes me feel bloated. It's easy to make a salad or a wrap or some healthy flapjacks. I stick to what I normally eat because that's what my body is comfortable with."

06 THE PROBLEM: my pedalling style is not very smooth...

Lizzie says: "We call the way you pedal 'finesse' and the best way to develop a good style is to train on your local track (visit britishcycling.org.uk to find out where your nearest track is). When you are using a fixed-gear bike you learn to pedal efficiently and smoothly. You'll also find it helps you technically too: fixed-gear bikes don't have brakes so you become good at bike-handling and that really helps you get through gaps out on the road too."

07 THE PROBLEM: I normally quit halfway through a ride...

Lizzie says: "It can be tempting to go home early, especially if the weather is bad, but it can be quite helpful to do a loop where there aren't any turn-offs for you to cut the route short. Instead of riding back past your house, do a loop which means you have to do the full distance before you can get home. It stops you getting tempted to quit early."

08 THE PROBLEM: I am never sure what kit to wear...

Lizzie says: "One of the most common mistakes I see amateur cyclists make is to wear too many clothes. You need to wear bright clothing for safety and you should never go out without warm wet-weather gear, but if you wear too many clothes your body overheats, making your training harder. Wearing lots of clothes also means you're not very aerodynamic. My clothing is really slim and aero. Just reducing your bulky clothing and narrowing your silhouette can make a huge difference."





09 **THE PROBLEM:** It's hard to keep an aerodynamic position...

Lizzie says: "You should always get a bike fit to make sure your bike is properly adjusted to your body shape. But it helps if you have a strong core too. I do a very vigorous core routine with sit-ups, Swiss ball work and medicine ball drills. If you have a solid core it helps you to stay in position on the bike and stops you wiggling around, which wastes a lot of energy."

10 **THE PROBLEM:** I panic on the morning of a sportive...

Lizzie says: "The best way to stay calm before a race is to get prepared beforehand and stick to a routine. Before every race I make sure I know all the details of the race: start times, distances, feed zones, where the climbs are, what the weather will be like. And I get all my kit ready the night before so there is minimal stress in the morning. You don't want to be checking your bike five minutes before the start. On the morning of a race I just get up, put my kit on and I know I am ready to go."

11 **THE PROBLEM:** I always ache after a ride...

Lizzie says: "After a tough ride I always have a recovery shake which has carbohydrate and protein to restore your energy and repair your muscles. It's good to stretch or have a massage too. I also drink a lot of water which is something that can often be forgotten about after you've stopped riding. It keeps you hydrated but it also helps you recover better."

12 **THE PROBLEM:** I hate training on the turbo...

Lizzie says: "Me too, I haven't been on one for years. I'd much rather train outdoors in the rain than on the turbo!"

Lizzie Armitstead was speaking on behalf of Yorkshire Bank Bike Libraries, a partnership between Yorkshire Bank and Cycle Yorkshire, ybonline.co.uk/bikelibraries

The Brutal was not so much a race, but a life experience that has made everyone who took part at whatever distance, and in whatever capacity, better for being there.

Mark Yates - Triple 2015

brutalevents.co.uk



Half, Full & Double Extreme Triathlons
September 10th - Llanberis, North Wales

PLANET X

SCIENCE
FITNESS



ZONE3


thebrutal
extremetriathlons

RACENEWFOREST 2016

Tempted to GoTri?



The Next Step in your training:

Ideal Beginners Events at:

**Forca Lymington Lido Triathlon
1st May**

500mtr swim in the Seawater Baths,
Cycle 12.5miles, Run 3 miles

**New Forest Novice Triathlons
on 29th May & 21st August**

Lake Swim 400mtr, Cycle 21miles,
Run 3 miles



Fun, Friendly, Supported & Scenic!

For details & entry: www.raceneuforest.co.uk



Tech Savvy

Making those first steps on a running programme is important. However, knowing what steps to take is even more so. This is where technology can help... that's if you know how to use it properly. Gil Cramer, an elite ultra-marathoner and experienced running technique specialist demystifies and identifies some top tech.

ACTIVITY MONITORS

There are many standard training programmes available that give you an idea of what you should be doing to improve your running or lose weight. Cramer says: "Everyone should adhere to programmes that consist of endurance training, speed work, strength and conditioning, skills and technique, and a rest period. The struggle of a one-size-fits-all programme comes when you start to look at the frequency of your training (how often you train), load (how much resistance) on your body, duration (length) of the sessions, and how much rest you'll need to recover sufficiently. That's where understanding your goals and ability level becomes important." He adds, "A standard programme would probably provide some benefits, but with a little knowledge and understanding of your own body you can take that same programme and turn it into something uniquely yours for better results."

These standard programmes are usually simple enough to follow without any technology other than a stopwatch, but using them in conjunction with an activity monitor can provide you with a more detailed account of your progress. Activity monitors include devices such as heart rate monitors, pedometers, GPS trackers and calculators to determine calories burned, and hours of sleep. More often than not, the devices have multiple functions that track a wide range of data. There is one device available for every level of technological experience, as well as

every budget. However, even at the lower price range there will be an initial cost greater than a good pair of running shoes.

Cramer believes: "The best and easiest way to monitor your training while running would have to be a running specific watch." The two that he recommends are the Garmin Forerunner 15 and the Suunto ambit 3. "The Garmin Forerunner 15 is easy to use, the watch face is big which makes it easy to read the display, and most importantly, it's comfortable to wear. A great choice if this is your first running specific watch and ideal for training or racing between 5km and a half marathon," states Cramer.

"The Suunto ambit 3 is a running nerd's dream," adds Cramer. "It has all the bells and whistles, is very accurate, and supplies you with loads of data. With its built-in route navigation it's a great watch if you're looking to extend your training distance past 21km or even get off the roads and head for the trails."

Activity monitors won't provide you with training programmes or interpret the data for you. However, you will need to work out your intervals, heart rate goals, distance (or steps multiplied by average stride length), elevation, calories burned, and any other data you wish to monitor. While this allows you greater freedom to adapt a training programme to your own unique goals and abilities, it does require knowledge and understanding of your personal goals and the best way to achieve them.

Activity monitors won't provide you with training programmes or interpret the data for you.

TOP ACTIVITY MONITORS

Cramer's Top 2

- Garmin Forerunner 15
- Suunto ambit 3

User Recommended

- Fitbit Charge
- Suunto Quest
- Garmin Forerunner 220
- Basis Peak
- Jawbone Up3





I think the optimum bpm to strive for during training is 180bpm, or a little faster for sprinting. Currently at the top of my play list is Sugar by Maroon 5

RUNNING TO A BEAT

Music can inspire you to push past discomfort and keep running when you feel like you can't take another step. Cramer says: "In my opinion, music can have both a positive and negative effect on your pace. Some find running without music near impossible, but a growing number of runners recognise that the wrong music or beat while running can negatively affect your training session."

Music has the added benefit of having a beat that you can match your stride to. "I think the optimum bpm to strive for during training is 180bpm, or a little faster for sprinting," says Cramer, "Currently at the top of my play list is *Sugar* by Maroon 5; it's just right to get me in a chilled mood before some big miles." You could also choose music at 90bpm, in which case you would be taking two strides for every beat. For those who are just getting off the couch or working towards increasing stamina, starting at a slower pace may be more beneficial, such as 120-140bpm.

There is no one genre of music that is better suited for running. If you enjoy a song, it inspires and motivates you to run, and it matches the bpm you are aiming for, then it is ideal for running. This could be anything from classical music to trance or death metal. If you have music that you enjoy but are unsure of how many bpm it contains, there is software available that analyses your

play-list. Some of the options are free, such as BPM Calculator or BPM Assistant, while others charge a small fee, such as Cadence Desktop Pro.

The benefit of using music to pace yourself is cost-effectiveness, as there is no or minimal purchases involved, particularly if you already have the music that will inspire you. It can provide motivation for those who find it difficult to self motivate and push on their limits.

TOP RUNNING SONGS

■ BLUES

Rock this House

by BB King and Elton John

■ COUNTRY

Cry with You

by Hunter Hayes

■ POP

I Love Rock 'n Roll

by Britney Spears

■ HIP-HOP/RAP

0 to 100/The Catch Up

by Drake

■ ALTERNATIVE

Alone Together

by Fall Out Boy

■ ROCK

Standing on the Outside

by Cold Chisel

■ METAL

Destroyer of the Universe

by Amon Amarth

■ DANCE

Acid Wolfpack

by Coyote Kisses

■ CLASSICAL

Thunder and Lightning

Polka Op 324

by Johann Strauss



TRAINING APPS

For those who are venturing into the wide world of running, training apps can be the next best thing to a personal coach. Many of them are available for free on Android or Apple platforms. They don't require much knowledge of running, particularly the couch-to-5km training programmes as they walk you through the instructions. One such example is "Zombies, Run!" This app provides motivation along with the training programme by incorporating a narrative wherein the runner will periodically be required to run away from zombies – always within the training parameters and at the level that is most comfortable for the runner. It comes with a GPS tracker or a step counter to measure your distance and your play-list can be accessed by the app and played during your run.

Running apps aren't only for beginner runners. Cramer says: "There are many great running apps out at the moment, but the three that stand out for me are: Nike+ Running, Strava, and Training Peaks. The Nike+ Running app is easy to use, and is perfect for the social side of running as you can share your latest runs and any photos you took along the route with friends on many different platforms. Strava is a great tool for collecting vital training data, and with the ability to sync a host of different devices to one app it comes in useful when tracking your progress. There is a social aspect to Strava too, but it has more of a competitive edge to it."

However, it is the Training Peaks app that Cramer believes is the key to taking your training to the next level. "It's an online coaching diary and programme builder with the added benefit of being able to train with coaches like myself," he explains. "Since it links to Strava as well as other portable running devices, you can upload your training data as soon as you are done and have real time feedback from your coach." It would appear that we now have access to coaches who can mould our training as we progress - all from our mobile device.

TOP TRAINING APPS

Cramer's Top 3 Training Apps

- Nike+ Running
- Strava
- Training Peaks

User Recommended

- Strava Run (4.6/5)
- Runtastic (4.5/5)
- Runkeeper (4.4/5)
- Endomondo (4.4/5)
- Zombies, Run! (4.3/5)
- Nike+ (4.3/5)



For those who are venturing into the wide world of running, training apps can be the next best thing to a personal coach.

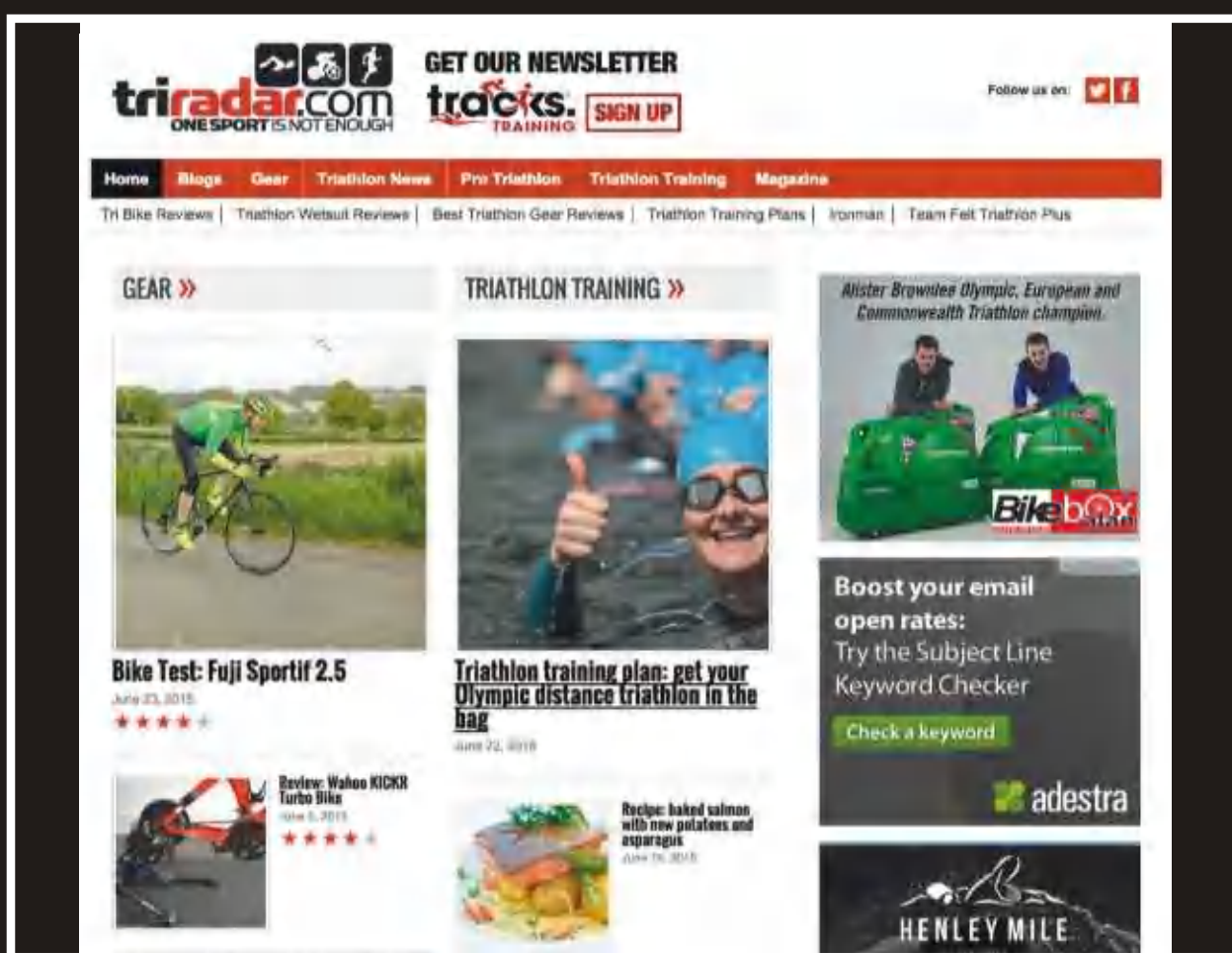
MAKING THE CHOICE

When it comes to making a choice between the best apps to facilitate your running, it isn't necessary to limit yourself to only one or two. Your preferences and needs are likely to change as your running improves, your goals are achieved, new goals are set, and you become more familiar with the technology at your disposal. Everyone has their own unique purpose for running as well as their own personal fitness levels, ability to self-motivate, and possible injuries that need to be compensated for. Budgets and tech savvy also need to be considered when making a decision. Since each runner is different, the best tech for running will be different for each person. But the good news is that there's bound to be a solution that suits you.

■ More info about Gill Cramer, runningcoachg.com,

YOUR COMPLETE ONLINE TRIATHLON RESOURCE

triradar.com



ALL THE NEWS

Keep up to date on developments in the world of triathlon from Ironman to super sprint, world champions to grassroots. You'll find everything you need to stay in touch with the goings on in your favourite sport throughout the on and off season.

ALL THE TRAINING

We've got a heap of training information to build both your speed and endurance, including a host of training plans for all abilities and race distances. Our sport-specific training articles will help you swim, bike and run faster in 2015.

ALL THE GEAR

Whether it's a new wetsuit, pair of wheels or shoes you're after, we've got an ever-increasing archive of reviews from the magazine. Each item is independently tested to help you make the best kit-buying decisions to boost your performance this year.

FOLLOW US ON



twitter.com/TriRadar



facebook.com/TriathlonPlus

Run the ultimate marathon

Why everyone needs to have “marathon” on their sporting CV – and how you can run your best ever 26.2 miles.

LET’S CUT TO the chase. Every self-respecting sporty person has to run a marathon. It’s a universally recognised gauge of athleticism, a surefire sign of your dedication and heroic mental strength. On your sports CV it’s equivalent to a degree – only without the crippling debt and the non-ironic stash of road signs.

Running a marathon is a potentially life-changing experience. It’s often the culmination of 12 weeks’ dedication and perspiration with the bonus irresistible opportunity to wear that pink leotard you’ve always wanted to. The boisterous crowds cheering you on (and pointing out that leotard is several sizes too small), a sense of camaraderie with fellow runners, the chance to boast on Facebook and an excuse to splash out on the new kit you’ve convinced yourself will make you faster than Dennis Kimetto. But most of all, it’s that life-affirming sense of achievement, that flood of euphoria, an endorphin orgasm, an afterglow that will last for many days after your blisters, muscles soreness and bullet nipples have all calmed back down.

Half the people in an average office have done a half marathon. Even your boss’s grandmother’s labradoodle. Half marathons are easy. Almost any able-bodied person could do one tomorrow. Marathons aren’t. You don’t want to just do a marathon. You need to run a marathon like you’re Ron Hill, in a time you’ll be happy or even proud telling people. Apart from your mum, most people won’t be very interested in what you got from the experience, the emotions you went through (unless you cried a lot and they mightn’t be sympathetic), or that epiphany you had mid-race. No, they’ll want to know your time. Your whole identity as a sportsperson hangs on your marathon PB.

And let’s be brutally honest here, if you’re able limbed and a relatively healthy human being, you should run the hallowed 26.2 miles in under four hours. If you didn’t, you either didn’t train hard or well enough, or you didn’t try hard enough on the day. And once you’ve run a “sub four”, if you want the respect of your running peers, you need to get as close as possible to three hours, ideally under it.

Over three issues, we’ve got together expert marathon runners and coaches to show you exactly how this can be done – and it doesn’t stop there, as in the following fourth issue, we show you how you can make the jump-up to the next level and become an ultramarathon runner.

For now, let’s start with a key aspect of your marathon training: the long run...



"Your whole identity as a sportsperson hangs on your marathon PB."



Part one: the long run

To run a marathon you need to build endurance – but it's easy to get the long run wrong.

THE EXPERT MARCUS SCOTNEY

Marcus (marcusscotney.com) has a marathon PB of 2:32 and has represented England and Great Britain at ultramarathon running. He's also a sports therapist and part of the experienced coaching team at Sheffield's Accelerate Performance Centre (accelerateuk.com).

"Just like a car needs the right engine to perform, we need to make sure we have developed our own engine," says Scotney. "The body is designed to run long. We just need to train it properly."

"You don't necessarily have to run all 26.2 miles in training, but you have to teach the body and the muscles to cope with the demands and continuous movement required, to develop the endurance and stamina needed. Long runs are a key element of a marathon training programme – which should also include strength, speed sessions and rest."

Scotney considers there are two types of long runs.

■ Over distance, which are easy long runs designed to build base fitness, strengthen muscles, tendons and ligaments. "Over distance runs also teach the body to burn fat," he says. "Yes, running easy is a very efficient way to loose weight!"

■ Endurance distance runs. "These are long workouts with a quicker pace, sometimes even a marathon pace. These help with the motor programme in muscles, running technique and teaching the body to physically and mentally cope with the endurance required for a marathon."

The most common mistakes with long runs are running at too high a level of intensity, and increasing distance too quickly. "Putting too much effort into the long run can cause too much fatigue, resulting in poor performance in following sessions and potential injury. Follow the 10 percent rule – increase your long run by 10 percent each week in time, and make sure every fourth week you reduce the time/distance to recover and let the body adapt to the training load. Then build the long run back up."

Scotney advocates doing long runs to a set time rather than mileage, initially. "As you build up, the distance becomes of value, so you see how far you are covering in preparation. But initially it's just about building endurance. The long run doesn't need to be any longer than 22 miles, 16-22 miles is a good distance. Depending on your level and amount of training during the week, it can be useful to do long runs with a mixture of marathon pace – to help the body get used to running at such a pace when slightly fatigued, which helps with lactate adaptation.

"The long run should be an easy pace, so you can sing a song or be able to chat to fellow

runners. In the later stages of the training programme, adding a few miles at marathon goal pace into it will be beneficial. However, if you are finishing your long run completely fatigued and need to spend the rest of the day on the sofa, your pace and intensity has been too high."

Off-road is better for the legs and helps build and develop strength. "It can also mean your pace is slower," says Marcus, "as you cope with

Use the long run to reflect on the goal you've set: why are you wanting to run a marathon, what's your motivation and focus?

the changes of surface. Running off-road is aesthetically more interesting and you're not having to deal with traffic. However, it's also useful to do some long runs on the road, to help the motor programme in the muscles to deal with the repetition of road running. And it's a lot easier to do a marathon pace long training run on the road."

And if you find long runs boring? Use the long run to reflect on the goal you've set: why are you wanting to run a marathon, what's your motivation and focus? Visualise yourself running the marathon, imagine what it's going

to feel like? Focus on positives rather than negatives! Imagine how it will feel telling people you've run a marathon – they might call you bonkers, but they'll be in awe of your ability to run 26.2 miles. Relish in the solitude and enjoy the "me" time, the lack of distractions. Run first thing in the morning and watch the sunrise as nature wakes up, whilst everyone else is still tucked up in bed, experience the trail at a magical time of day. Or listen to music, an audiobook or podcast to help the miles pass. Joining a running club and meeting other runners to do your long runs with can help too.

Your long run should be an opportunity to practise your race day, too including breakfast and race fuelling. "Don't go over board on nutrition during the run though – eating and drinking too much can upset the stomach. Taking some fuel onboard during a long run will help your recovery though, as you won't feel so energy depleted.

"Neglect your long run recovery at your peril! If you want to feel fresh for the day after your long run you need to recover properly. Do some static stretching – your calves, quads and hamstrings especially with thank you. It's important to hydrate and replace burnt carbohydrates and chiselled away protein quickly afterwards. Don't worry about fancy protein recovery drinks – go for milk, it's a lot cheaper and isn't full of chemicals."





YOUR ULTIMATE MARATHON TRAINING PLANS

For a sub-4-hour, sub-3.30-hour or sub-3-hour marathon follow our training plans devised by 2:32-marathoner and coach Marcus Scotney

"Structure and consistency are key to developing performance in running, or any sport," says Scotney. "Having a plan, even for your route, helps with that consistency."

The right shoes are very important, too. "You want the right shoe for your gait," adds Scotney. "Wear the wrong type and you increase the possibility of an injury. Make sure they are not too small or else you'll end up with black toe nails and blisters."

And don't let a niggle become an injury. "Rest up or ease back on the work load and make sure you aren't training too fast or too hard for the body to cope with," advises Scotney. "Get a sports massage to look after tired and fatigued muscles. With an injury, rest and see a physio or sports therapist who can advise and assess how and why the injury happened and what you can do to prevent it reoccurring."

KEY TO TABLES

EASY RUNS should be a slow pace, around 60-75 percent heart rate (HR), with easy effort. You will be able to hold a conversation. These will build endurance.

MODERATE RUNS should be at a moderate pace, 75-85 percent HR, feeling slightly out of breath with conversation being slightly harder. These will build stamina.

DIFFICULT RUNS should be at a fast pace, 85-95 percent HR, with one word answers in a conversation possible, working on your anaerobic fuel system. These will build economy.

SPEED SESSIONS should be a 95-100 percent HR.

FARTLEK RUNS are easy-moderate runs interspersed with short sharp bursts or unstructured intervals, depending on how you feel.

FOR HILL EFFORTS select a reasonable gradient that won't reduce you to a crawl.

CROSS TRAIN swim, hill-walk, cycle, do Pilates or yoga or S&C workouts.

SUB 4HR TRAINING PLAN

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1	Rest	40min Easy	35min Moderate	Rest	30min Moderate	Cross Train	1:30hrs Jog walk
2	Rest	40min Easy	35min Moderate	Rest	45min Moderate	Cross Train	1:30hrs Jog walk
3	Rest	40min Easy	40min Moderate	Rest	45min Moderate	Cross Train	1:45hrs Jog walk
4	Rest	40min Easy	10x1min with 1min jog recovery 10min warm-up and cool-down	Rest	45min Moderate	Cross Train	1:45hrs Jog walk
5	Rest	50min Easy	40min Moderate	Rest	45min Moderate	Cross Train	2hrs Easy
6	Rest	40min Easy	10x30sec hill reps with jog recovery 10min warm-up and cool-down	Rest	45min Moderate	Cross Train	2:20hrs Easy
7	Rest	50min Easy	40min Moderate	Rest	45min Moderate	Cross Train	2:40hrs Easy
8	Rest	40min Easy	10x1min with 1min jog recovery 10min warm-up and cool-down	Rest	45min Moderate	Cross Train	3hrs Easy
9	Rest	50min Easy	40min Moderate	Rest	45min Moderate	Cross Train	2hrs Easy
10	Rest	40min Easy	10x30sec hill reps with jog recovery 10min warm-up and cool-down	Rest	45min Moderate	Cross Train	1:30hrs Easy
11	Rest	50min Easy	40min Moderate	Rest	45min Moderate	Cross Train	1hr Easy
12	Rest	30min Easy	30min Easy	Rest	45min Moderate	Cross Train	MARATHON

SUB 3:30HR TRAINING PLAN

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1	Cross Train	3-mile warm-up, 10x400m w/45sec rec, 2-mile cool-down	50min Moderate	45min Easy	Rest day or cross training	10x30sec hill reps with jog recovery 10min warm-up and cool-down	1:30hrs Trail Run
2	Cross Train	3-mile warm-up, 10x400m w/45sec rec, 2-mile cool-down	50min Moderate	45min Easy	Rest day or cross training	45min Moderate	1:30hrs Road Run
3	Cross Train	3 mile warm-up, 6x800m 1min rest, 2-mile cool down	60min Moderate	50min Easy	Rest day or cross training	50min Easy	1:45hrs Trail Run
4	Cross Train	45min Moderate	50min Moderate	Rest	Rest day or cross training	45min Difficult	1:45hrs Road Run
5	Cross Train	3-mile warm-up, 5x1000m 2min rec, 2-mile cool-down	40min Moderate	Rest	Rest day or cross training	10x30sec hill reps with jog recovery 10min warm-up and cool-down	2hrs Trail Run
6	Cross Train	3-mile warm-up, 6x800m w/45sec rest, 2-mile cool-down	60min Moderate	Rest	Rest day or cross training	45min Fartlek	16-mile run with 5 miles in the middle at marathon pace
7	Cross Train	3-mile warm-up, 10x400m w/45 sec rec, 2-mile cool-down	40min Moderate	Rest	Rest day or cross training	10x30sec hill reps with jog recovery 10min warm-up and cool-down	18-mile run with 6 miles in the middle at marathon pace
8	Cross Train	40min Moderate	60min Moderate	Rest	Rest day or cross training	45min Difficult	21-mile run with 7 miles in the middle at marathon pace
9	Cross Train	3-mile warm-up, 6x800m w/45sec rest, 2-mile cool-down	60min Moderate	Rest	Rest day or cross training	10x30sec hill reps with jog recovery 10min warm-up and cool-down	16-mile run with 5 miles in the middle at marathon pace
10	Cross Train	3-mile warm-up, 5x1000m w/2min rec, 2-mile cool-down	60min Moderate	Rest	Rest day or cross training	45min Difficult	1:30hrs Trail Run
11	Cross Train	3-mile warm-up, 10x400m w/45 sec rec, 2-mile cool-down	50min Moderate	Rest	Rest day or cross training	10x30sec hill reps with jog recovery 10min warm-up and cool-down	1hr Road Run
12	Cross Train	30min Easy	30min Easy	Rest	Rest	15min easy	MARATHON

SUB 3HR TRAINING PLAN

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1	50min Easy	3-mile warm-up, 12x400m w/45sec rec, 2-mile cool-down	60min Moderate	45min Easy	Cross Train	10x30sec hill reps with jog recovery 10min warm-up and cool-down	1:30hrs Trail Run
2	50min Easy	3-mile warm-up, 8x800m w/2min rest, 2-mile cool-down	60min Moderate	45min Easy	Cross Train	10x30sec hill reps with jog recovery 10min warm-up and cool-down	01:45hrs Road Run
3	50min Easy	3-mile warm-up, 5x1000m w/2min rec, 2-mile cool-down	85min Moderate	50min Progression run increase the pace every mile	Cross Train	10x45sec hill reps with jog recovery 10min warm-up and cool-down	2hrs Trail Run
4	40min Easy	3-mile warm-up, 12x400m w/45 sec rec, 2-mile cool-down	60min Moderate	45min Easy	Cross Train	45min Fartlek	1:45hrs Road Run
5	50min Easy	3-mile warm-up, 5x1000m w/2min rec, 2-mile cool-down	85min Moderate	50min Progression run increase the pace every mile	Cross Train	2 sets of 10x30sec hill reps with jog recovery 10min warm-up and cool-down	16-mile run with 5 miles in the middle at marathon pace
6	50min Easy	3-mile warm-up, 6 x 800m w/45sec rest, 2-mile cool-down	85min Moderate	50min Fartlek	Cross Train	10x45sec hill reps with jog recovery 10min warm-up and cool-down	19-mile run with 5 miles in the middle at marathon pace
7	45min Easy	3-mile warm-up, 4x1mile at 10km pace 3min rec, 2-mile cool-down	90min Moderate	50min Progression run increase the pace every mile	Cross Train	2 sets of 10x30sec hill reps with jog recovery 10min warm-up and cool-down	22-mile run with 7 miles in the middle at marathon pace
8	50min Easy	3-mile warm-up, 12x400m w/45 sec rec, 2-mile cool-down	60min Moderate	50min Fartlek	Cross Train	45min Moderate	19-mile run with 5 miles in the middle at marathon pace
9	40min Easy	3-mile warm-up, 8 x 800m 2min rest, 2-mile cool-down	90min Moderate	50min Progression run increase the pace every mile	Cross Train	2 sets 10x30sec hill reps with jog recovery 10min warm-up and cool-down	16-mile run with 5 miles in the middle at marathon pace
10	50min Easy	3-mile warm-up, 5x1000m 2min rec, 2-mile cool-down	80min Moderate	50min Fartlek	Cross Train	10 x 45sec hill reps with jog recovery 10min warm-up and cool-down	1:30hrs Trail run
11	45min Easy	3-mile warm-up, 12x400m w/45sec rec, 2-mile cool-down	60min Moderate	50min Progression run increase the pace every mile finishing at marathon pace	Cross Train	10x30sec hill reps with jog recovery 10min warm-up and cool-down	1hr Road Run
12	45min Easy	50min Easy 30sec efforts every 5min	40min Easy	30min Easy	Rest	30min Easy	MARATHON

Ian Shutt begins his Lakesman prep with some unusual training, whilst Neil Spencer has to unfortunately call time on his challenge.

Secret Ironman

Ian starts his training with a bus pass



IAN SHUTT, 36 is an accountant who's aiming for the Lakesman in June 2016

THIS MONTH I'VE mostly been concentrating on my running. I used to think that for anything up to half marathon distance, an average person could do it without training. I've completed about a dozen in my time but none for a while, and my Ironman logic is that if I can run a decent half marathon and then everything goes bad, I'll have plenty of time in the bank to walk a reasonable amount of the second half. I have been, however, either proved wrong in my theory or fallen behind the average person's fitness levels – not ideal for a wannabe Ironman.

I currently work just over 10 miles from home, so I decided to run it. I got about 5 miles from Leeds city centre when I started to think maybe 10 miles was a bit too much at this stage. Now my mental strength is a definite weakness for me... (note to self: need to work on it). I had my bus pass tucked into my shorts and discovered a burst of speed my hockey team mates would tell you they haven't seen in a while as I jumped on the passing X84! Feeling slightly guilty I did get off a couple of miles further down the road for the final few miles.

Two weeks later I took part in a 10km run and managed to knock 3 minutes off my time from last year – so some redemption perhaps. My friend Rob was a few seconds ahead of me. If only I'd not got on that bus I reckon I'd have beaten him! This did, however, start me thinking about a few key performance indicators I should be building into my training plan for the next few months so I can monitor my fitness. I'd like to use the 5km distance and reps of, as a benchmark. I have an idea to go to my local park on Sunday mornings. Maybe I can even persuade my wife to help. The idea is to run 5km, look after my son while my wife runs 5km, then run another 5km. This is probably going to cost me an extra Christmas present.

In my mind I've also got a list of hills around the Wharfe Valley I want to tick off to prove my cycling fitness. The bike route for the Lakesman promises to "take in several miles of well-known local time trial routes as well as more undulating sections". I'm pretty comfortable on the flat and descents, but usually get left behind on the hills. This February I start a new job and will have to get to the top of Otley Chevin each day (a categorised climb in the 2015 Tour De Yorkshire) so I'm not too worried by this, in fact I've strangely started to look forward to it. It'll give me a great workout as part of my commute that should be much better for my work/life training balance.

My plans are all starting to fall into place. By this time next month I hope to share with you some heroic cycles, swims and runs. And I'll be leaving my bus pass at home.



TARGET: TAFF TRAIL & PEN Y FAN

It's bad news for Neil this month as he finally has to succumb to his injuries.



NEIL SPENCER, 34 lives in Newport and is a former soldier

I'M OBVIOUSLY VERY disappointed, I'd been training as best as I could and as you'll know have been planning my kit and nutrition for my double of Pen Y Fan and the Taff Trail which would have taken place a few weeks

back in early December.

However, my on-going knee injury has started to give me more problems and to make matters worse it's began to affect the other one due to over-compensation. All those involved and my supporters

have been very understanding and I thank them for this.

I'm due to see another specialist and hopefully my problems will be quickly resolved. I'm thinking of tackling the challenges again this summer.

Ask the experts

From what's a good do anything bike, to the benefits of having a high VO2 max versus anaerobic threshold to starting long distance walking, our experts have all the answers. Email your questions to of.ed@kelsey.co.uk



DAMIAN HALL

OF CONTRIBUTOR AND
ENDURANCE ATHLETE,
DAMIANHALL.INFO

Q: I'd like to get into long distance walking. Have you any tips? I'm a regular marathon runner, but after a few injuries I'd like to do something less intensive for a while.

Paul Grayson, by email

A: Long distance walking is a wonderful thing – and a great activity for you. It can offer you many of the same gains as running: excellent cardiovascular fitness, stronger heart and lungs, increased strength overall and safe weight loss, for example. But above all – and assuming your long-distance walks aren't in the centre of London – a sense of adventure. If you camp or bivvy you'll also get the satisfaction of self-sufficiency, and the offer of an affordable, uber-healthy holiday option. And of course all without stressing the body as much as marathon running.

If you're used to marathon training you'll probably have decent aerobic fitness. But you'll need to get used to carrying a backpack, of around 5-10kgs. So start with some half-day and day walks with a pack – comfort is key here. Build up the pack weight gradually. You can treat your training of sorts a bit like a marathon plan, building up gradually to perhaps a two- or three-day walk over a weekend, then taper for two-three weeks before any big event you plan.

Part of the joy is looking into all the National Trails (nationaltrail.co.uk) and other long-distance footpaths around the country (there are literally hundreds and there's an excellent database at ldwa.org.uk) and finding one to suit you. Think about whether you want to be going up and down mountains in the Lake District (Coast to Coast or Cumbria Way), or somewhere less challenging to begin with (Cotswold Way or The Ridgeway). In fact I wouldn't recommend taking on something like the spectacular 192-mile Coast to Coast or my beloved 268-mile Pennine Way (the oldest and toughest of the National Trails) – which would both take well over a week, the latter more likely two – before you've tried something a little shorter first. It's a very rewarding experience though and one I'd thoroughly recommend.





ANDY HAMILTON
SPORTS PERFORMANCE AND
NUTRITION EXPERT,
ANDREWMARKHAMILTON.CO.UK

Q: My friend and I are both keen runners. We are very evenly matched for pace and have almost identical personal best times for the 10K and 10-mile distances. However, we recently went along to a fitness testing session where we underwent aerobic capacity testing on a treadmill (VO2max). My result was a maximal oxygen uptake of 63mls/kg/min, while his was only 57mls/kg/min. Given that maximal oxygen uptake is supposed to predict endurance capacity, why can't I outpace him when we race together? Many thanks.

Adrian Marshall, by email

A: There are two possible explanations for this anomaly. The first is that most maximal aerobic capacity (VO2max) tests are not 100% accurate because they measure heart rate response to exercise at a moderate intensity, and then use an extrapolation to predict what you could do if you were pushed flat out. Although it's a safer method of testing, some degree of error is inevitable when extrapolating upwards, particularly if somebody has a significantly higher or lower heart rate than the well-known (but inaccurate) 220 minus your age formula predicts.

However, even if you were to conduct these test 100% accurately, measuring someone at maximum output using computerised gas analysing equipment, there's another reason why the highest VO2max figures don't always predict fastest running times. Just as important is how much muscle-fatiguing lactate your muscles produce near maximum oxygen uptake capacity. Your friend may have a slightly lower maximum oxygen uptake figure than you, but if he can use more of that capacity without his muscles accumulating fatiguing lactate (i.e. he has a higher lactate threshold), he'll be able to sustain a pace that is equally as rapid as you. Or to put it another way, although you have a notionally higher VO2max than him, you may not be able to utilise that higher maximum capacity because your muscles produce more lactate at a lower proportion of your maximum capacity, preventing you from exploiting it fully. If this is the case (blood lactate can easily be measured with a simple handheld device), it indicates that you would need to do more anaerobic training sessions (such as interval workouts) to raise your lactate threshold and teach your muscles how to sustain a higher power output without accumulating lactate.



JACOB TIPPER
CYCLE COACH WITH
ON THE RIVET COACHING,
ONTHERIVETCOACHING.COM

Q: I'm looking for a do it all bike - one that'll get me to work, take me distances at the weekend on road and do a little off-road. What's better a MTB hybrid/cyclo-cross bike or something else?

John Reid, by email

A: For me the cyclo-cross bike is the best all-rounder. Fitted with slick tyres it can be as fast on the road as a racing bike, yet with its smaller gear ratios and possibly the disc brakes that many now have, it can also handle

off-road perfectly. While a hybrid MTB may be a little more comfortable on the trails, unless you are doing some decent sized jumps or drop offs there won't be a huge advantage from the cross bike, however, on the road it should feel significantly slower due to the added weight and increased rolling resistance. Due to the increased wheel clearance on cross bikes many road riders also use them as winter bikes as they fit decent sized mudguards protecting your frame from the grit and grime of winter roads.

**NEVER MISS
AN ISSUE**
SUBSCRIBE ON PAGE 26

OutdoorFitness

**NEXT MONTH
ON SALE 15TH JANUARY**

CYCLO-CROSS

GET MUDDY, GET OFF-ROAD, HAVE FUN

BOULDERING

GET INTO THIS GREAT
CLIMBING OPTION

CIRCUIT TRAINING

THE BEN LUI CIRCUIT
THAT IS

PLUS

**GRAN PARADISO
MOUNTAIN CLIMB**

**13 FOODS THAT MAKE
YOU RUN FASTER**

WINTER WARMERS
Lanzarote training

**MARATHON
SHOES TESTED**

SASCHA HAMM
GB's top freeride
snowboarder



SAVE
58%

coast

SUBSCRIBE TODAY

3 ISSUES FOR JUST £5*

Save 58%** on the shop price **Free delivery** direct to your door **Never** miss an issue



3 EASY WAYS TO ORDER

1 ONLINE
shop.kelsey.co.uk/cst345

2 POST
Fill in the form and send to: FREEPOST RTK-HYRL-CCZX, coast
Subscriptions, Kelsey Publishing Ltd., Cudham Tithe Barn,
Berry's Hill, Cudham, Kent, TN16 3AG

3 CALL OUR SUBSCRIPTION TEAM
0845 241 5159 UK only & quote offer code COAC137

Hotline open: Mon - Fri 8am - 6pm. Please note that calls are
charged at your local rate, for further information please check with your service provider.

*PLEASE NOTE: 3 issues for £5 offer is a Direct Debit, UK subscription offer only. You can cancel at any time in writing in the first three months and £5 will be your only commitment. If you do NOT cancel in that time, a regular payment will continue at £20.35, taken via direct debit from your bank every six months, saving 15%. **58% discount calculated on your first 3 issues.

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

coast

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

YOUR DETAILS

Mrs/Ms/Miss/Mr Forename
Surname
Address
..... Postcode
Daytime phone Mobile
Email

DELIVERY DETAILS (if different from above)

Mrs/Ms/Miss/Mr Forename
Surname
Address
..... Postcode
Daytime phone Mobile
Email

☒ **YES! Please send me the next 3 issues of COAST for just £5.**

After 3 issues I understand that my subscription will continue at the low rate of just £20.35 every six months, saving *15% on the shop price – unless I write to tell you otherwise.

Instructions to your Bank or Building Society to pay by



Name of Bank
Address
..... Postcode

Account name
Sort code Account number

Signature Date

Originator's Id number

8 3 7 3 8 3

Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with Kelsey Media Ltd., and, if so, details will be passed electronically to my Bank or Building Society.

PLEASE SEND COMPLETED FORM TO:

FREEPOST RTK-HYRL-CCZX, coast subscriptions,
Kelsey Publishing Ltd., Cudham Tithe Barn, Berry's Hill,
Cudham, Kent, TN16 3AG

Offer/prices available until 31st December 2015. Kelsey Media uses a Multi Layered Privacy Notice giving you brief details about how we would like to use your personal information. For full details visit www.livingbythecoast.co.uk or call 01959 543524. If you have any questions please ask as submitting your data indicates your consent, until you choose otherwise, that we and our partners may contact you about products and services that will be of relevance to you via direct mail, phone, email and SMS. You can opt-out at ANY time via email data.controller@kelsey.co.uk or 01959 543524.

COAC137

SAVE
62%

Triathlon **PLUS**

SUBSCRIBE TODAY

3 ISSUES
FOR JUST £5*

Save 62%** on the shop price **Free delivery** direct to your door **Never** miss an issue



3 EASY WAYS TO ORDER

1 **ONLINE**
kelseyshop.co.uk/tlp345

2 **POST**
Fill in the form and send to: Triathlon Plus magazine Subscriptions,
FREEPOST RTKZ-HYRL-CCZX, Kelsey Publishing Ltd.,
Cudham Tithe Barn, Berry's Hill, Cudham, Kent, TN16 3AG

3 **CALL OUR SUBSCRIPTION TEAM**
0845 872 7385 & quote offer code OFIC107

Hotline open: Mon - Fri 8am - 6pm. Please note that calls are charged at your local rate, for further information please check with your service provider.

*PLEASE NOTE: 3 issues for £5 offer is a Direct Debit, UK subscription offer only. You can cancel at any time in writing in the first three months and £5 will be your only commitment. If you do NOT cancel in that time, a regular payment will continue at £23.40 still saving 20%, taken via direct debit from your bank every 6 months. **62% discount calculated on your first 3 issues.

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

Triathlon **PLUS**

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

YOUR DETAILS

Mrs/Ms/Miss/Mr Forename
Surname
Address
.....
..... Postcode
Daytime phone Mobile
Email

DELIVERY DETAILS (if different from above)

Mrs/Ms/Miss/Mr Forename
Surname
Address
.....
..... Postcode
Daytime phone Mobile

☒ **YES! Please send me the next 3 issues of Triathlon Plus magazine for just £5.**

After 3 issues I understand that my subscription will continue at the low rate of just £23.40 every 6 months, saving 20% on the shop price – unless I write to tell you otherwise.

Instructions to your Bank or Building Society to pay by



Name of Bank
Address
.....
..... Postcode

Account name
Sort code Account number
.....

Signature Date

Originator's Id number
8 3 7 3 8 3 Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with Kelsey Media Ltd. and, if so, details will be passed electronically to my Bank or Building Society.

PLEASE SEND COMPLETED FORM TO:

FREEPOST RTKZ-HYRL-CCZX, Triathlon Plus,
Kelsey Publishing Ltd., Cudham Tithe Barn,
Berry's Hill, Cudham, Kent, TN16 3AG

Offer/prices available until 31st December 2015. Kelsey Media uses a Multi Layered Privacy Notice giving you brief details about how we would like to use your personal information. For full details visit www.kelseyspb.co.uk or call 01959 543524. If you have any questions please ask as submitting your data indicates your consent, until you choose otherwise, that we and our partners may contact you about products and services that will be of relevance to you via direct mail, phone, email and SMS. You can opt-out at ANY time via [email data.controller@kelseyspb.co.uk](mailto:data.controller@kelseyspb.co.uk) or 01959 543524.

TLP3107

FOOD



88

CONTENTS

84 **CARBS**

Loads of advice

88 **DAY-TO-NIGHT**

24-hr event fuel

92 **R&R NUTRITION**

Red meat, green light?



CANCER-RISK

Recently there's been much publicity surrounding its cancerous potential. The British Dietetic Association says:

"This sounds alarming, but when compared to smoking, the eating of red and processed meats causes 3% of all cancers compared to smoking which causes 19% of cancers."

A STUDY PUBLISHED in *Network Health* shows how three out of five endurance and female athletes are iron depleted and a third are at risk of iron deficiency. The research examines how the body uses iron and how deficiency can erode stamina and performance. Lead author and dietitian Dr Carrie Ruxton says:

"Research suggests that a chronic lack of iron is undermining the performance of thousands of everyday exercise enthusiasts. It's clear that many fitness regimes are missing iron and all the evidence confirms that without healthy iron stores it is unlikely that any athlete will achieve

their potential."

"The simplest way to achieve this is to eat red meat on a regular basis because the haem iron in red meat is much more available and readily absorbed than non-haem iron from fortified foods and plant sources."

A lack of iron limits oxygen transport around the body taking the edge off your mental and physical performance. Rin Cobb, co-author and clinical and sports performance dietitian adds:

"The easiest way to beef-up your stamina is to increase your intake of red meat towards the recommended level of 70g a day. Women on

average eat just 56g of red meat daily."

"In the UK the average daily intake of red meat is around 70g per day and the average intake of processed meats is less than 50g per day i.e. the equivalent of two rashers of bacon. If you think you are eating more than this amount daily then the advice is to cut down."

Eating moderate amounts of varied red meat as part of a balanced diet can be healthy and provide you with the haem iron (and protein) needed for an active life, but choose lean cuts and avoid cooking at very high temperatures.

So it seems red meat gets the green light

Carbohydrate: loads of advice!

If you're serious about performing well for a big event, your pre-race carbohydrate nutrition is vital. But as Andrew Hamilton explains, carbohydrate loading to keep your muscle stores topped up is something you need to think about day in, day out.

NUMEROUS STUDIES HAVE shown that consuming a carbohydrate-rich diet is a pre-requisite for optimum performance in endurance sports such as cycling, running, triathlon and swimming. This is because the bulk of the energy during high-intensity exercise (and a significant proportion during moderate intensity exercise) comes from muscle glycogen.

You can think of glycogen as your body's premium grade of fuel for exercise because it can be stored where it's needed (the working muscles), and then rapidly converted to energy, enabling you (providing you're fit enough) to exercise hard for long periods of time. Indeed, even if you're working at lower intensities, some of that energy still comes from muscle glycogen, and even a mild shortfall in it can leave you feeling tired and leaden. High levels of muscle glycogen on the other hand can help power you through even very long workouts, gentle or intense.

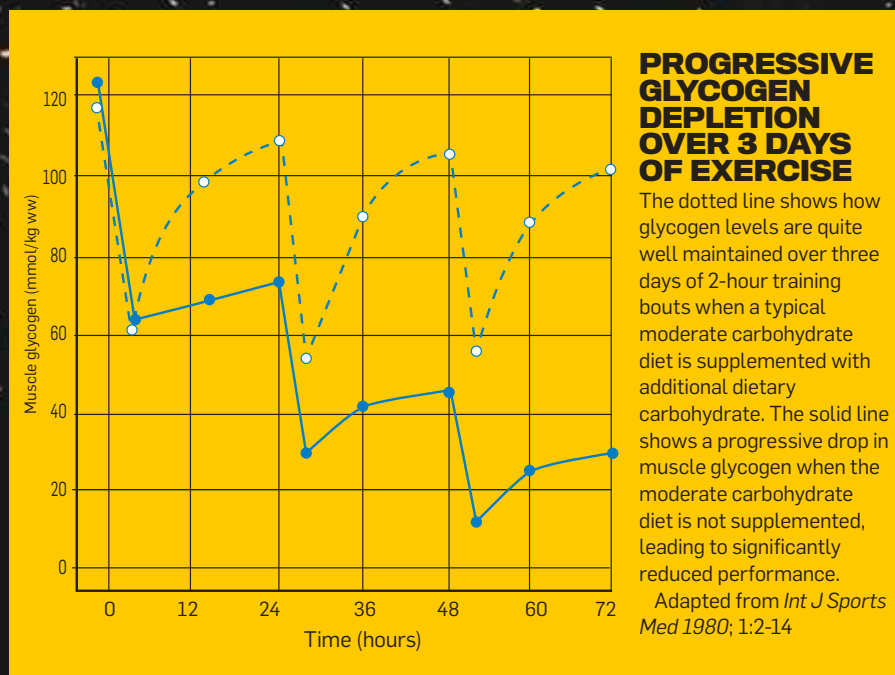
However, muscle glycogen storage is comparatively limited; fully loaded, your muscles can only store around 400g or so - enough to supply around 2-3 hours' worth or so of intense exercise. After this point, increasing amounts of energy have to be derived from fat, which is a less efficient process requiring more oxygen to liberate muscular energy. This inevitably results in greater perceived effort at sub-maximal pace and a slower maximum pace.

It follows therefore that all other things being equal, the more muscle glycogen you have successfully stored by carbohydrate loading before training or a long event, the longer you'll be able to maintain your exercise intensity before fatigue sets in. It also follows that after exercise, one of your key priorities is to rapidly replenish that lost muscle glycogen.

THE SCIENCE OF CARBOHYDRATE REPLENISHMENT

One of the earliest landmark studies in carbohydrate nutrition demonstrated that a typical Western diet (with about 45% of calories derived from carbohydrate) produced a steady depletion in muscle glycogen during three successive days of running training (10 miles per day) (1). However, when runners were provided with additional carbohydrate supplementation, they achieved near maximal depletion of muscle glycogen within 24 hours (see Graph).

Subsequent studies showed that to maximise glycogen replenishment, carbohydrate consumption should be a priority after exercise. In fact a literature review of a large number of studies concluded that the highest muscle glycogen synthesis rates occur when large



amounts of carbohydrate (1.0-1.85g per kg of body weight per hour) are consumed immediately after exercise and at 15- to 60-minute intervals thereafter, for up to five hours.

As a corollary to this, delaying your post-exercise carbohydrate ingestion by several hours may lead to lower rates of muscle glycogen synthesis. Of course, if you're not training or competing again for several days, this doesn't matter, but if you're engaging in daily (or even more frequent) training, post-exercise carbohydrate consumption is critical. It's true that some animal studies have shown that there's a degree of enhanced glycogen replenishment for up to 72 hours post-exercise (3,4), but of course the training schedules of most athletes simply don't allow for up to 72 hours of recovery time between sessions.

PRACTICALITIES OF CARBOHYDRATE LOADING

When it comes to understanding the practicalities of carbohydrate loading, four main questions need answering: When? How much? How often? What type(s)?

WHEN When carbohydrate is given, the highest rates of muscle glycogen storage following exercise occur during the first hour following exercise (5). The golden rule therefore is to consume carbohydrate immediately after exercise, because this is a sure-fire way to speedy recovery. Although some studies have

suggested that delaying your first carbohydrate meal/drink for a couple of hours or more after exercise doesn't affect your overall ability to top up glycogen in the longer-term (over 1-2 days) (6), if you have to train again later the same day, or even the next day, the chances are you'll struggle to optimally load those muscles.

If you've completed a long bout of hard exercise, you'll need more carbohydrate to replenish and reload your muscles than a shorter, less intense session. However, the more carbohydrate you need, the harder it is to replenish in one hit. Replenishment after long and hard training sessions therefore should begin immediately, but should also continue for more than an hour after training; there's less potential for tummy upsets this way and your body will still be able to make good use of any carbohydrate you consume after the first hour. A useful tip is to consume a ready-mixed carbohydrate drink immediately after training, followed by a carbohydrate-rich meal as soon as you get home.

If you're unable to carbohydrate load immediately after training for any reason, don't despair. Although it will take longer, and be a less efficient process, all the evidence suggests that provided you subsequently consume the required amount of carbohydrate, you can still achieve good levels of muscle glycogen. The downside of course is that if you're training again within 24 hours, this may not be soon enough to fully re-load those muscles.



"Research suggests that a higher frequency of smaller feedings produces higher rates of glycogen synthesis than taking all your required carbohydrate in one big hit."

Take home messages

- For rapid and optimal recovery, begin consuming carbohydrate immediately after training and no later than within an hour.
- When replenishing large amounts, continue to consume carbohydrate after the first hour.

HOW MUCH? Even if you can't manipulate your timing to maximise the window of opportunity, research suggests that when it comes to replenishing muscle glycogen after training, the key to is to consume enough carbohydrate following exercise. The \$64,000 question of course is just how much is enough?

Some studies have shown that muscles can be fully replenished with glycogen by consuming 7-10 grams of carbohydrate per kilo of bodyweight following training (7,8) (e.g. if you weigh around 70kg, this would equate to 490-700g of carbohydrate) and this has led to a generalised recommendation among some sports scientists.

However, there are two problems with this global recommendation; the first is that how much carbohydrate you need after training will depend on how active you are during this period. For example, if you train and then go to work and your job involves manual labour, you'll need more carbohydrate than if you train then put your feet up and watch TV for the next four hours. It also depends on how much you've emptied your glycogen stores; a hard 5-hour bike session will empty those stores far more than an easy 30-minute recovery run.

There's also another potential problem with a blanket recommendation of 7-10g of carbohydrate per kilo as a loading regime - weight gain. Using the 70kg bodyweight example again, even at the lower end of the 7-10g range, 500g of carbohydrate at four calories per gram contains 2,000 calories. By the time you've consumed the required 100g or protein or so and some essential dietary fat,

your daily calorie intake in going to be pushing 3,000kcal - and that's assuming you're quite disciplined with your diet!

If you're training hard for a couple of hours each day, that kind of calorie intake is not a problem, but if you have a sedentary job and your typical daily training consists of 30 minutes to an hour of moderate intensity training, you could end up consuming more calories than you need, leading to performance-blunting weight gain.

For these reasons, a blanket how much figure is hard to give. A much better way may be a calculation based on calorie burn; if you know roughly the energy expenditure of your training session in calories (many heart rate monitors such as Polar and Suunto will now calculate this for you reasonably accurately), you can simply divide this calorie burn figure by four to give an approximate gram requirement for post-exercise carbohydrate.

For example, suppose you've cycled for 90 minutes and your calculated calorie burn is 1,200kcal, you would need to consume in the region of 300g of carbohydrate (1,200 divided by 4) to replenish the muscle glycogen used (actually this slightly overestimates glycogen usage because some of that energy will have come from fat oxidation, but it's a near enough approximation and provides an additional safety margin).

Take home message

- For optimum post-exercise glycogen replenishment, consume approximately a gram of carbohydrate for every 4 calories of expended energy and more if your recovery period is physically active.

HOW OFTEN Research suggests that a higher frequency of small feedings produces higher rates of glycogen synthesis than taking all your required carbohydrate in one big slug, especially

during the first four hours (9-11). Smaller, more frequent feedings also help to reduce the risk of tummy upsets. A better option would be to start feeding immediately, taking on board what you can during the first hour then following up with repeat feedings at 30-minute intervals for the next few hours.

This concept can be extended; during longer workouts you can begin reloading muscle glycogen by consuming carbohydrate drinks before you complete your training session - i.e. taking on fuel on the move. Apart from the proven performance benefits of consuming carbohydrate during longer workouts, this practice can help make the process of post-exercise muscle glycogen reloading easier and more efficient.

Take home messages

- For shorter, less-energy-intensive workouts requiring modest carbohydrate replacement, a single carbohydrate drink/meal taken in the first hour after training will suffice.
- For longer, more energy intensive workouts requiring more carbohydrate replacement, start immediately with a generous helping but then split subsequent intake over several feedings for the next four hours to avoid gastric distress.
- For longer workouts, consider taking carb drinks during training as well as after to help make post-exercise refuelling easier.

WHAT CARBOHYDRATE TYPE(S)? Because your muscles need rapid replenishment during the post-exercise window of opportunity, relatively quick-releasing carbohydrates (e.g. from high glycaemic sugars) are particularly effective, at least in the first instance. Indeed, the immediate post-exercise period is one of the few instances in nutrition where quick-releasing carbohydrates can be preferable to the slower releasing starchy carbohydrates such as bread, cereals, potatoes, pasta and so on normally recommended by nutritionists.

However, after longer training sessions/events, the process of carbohydrate loading takes longer - often several hours. After the initial couple of hours, slower-releasing carbohydrates become increasingly important in terms of providing glucose for muscle glycogen re-synthesis.

As a rule of thumb, the more time has elapsed after exercise, the less important it becomes to consume quick-releasing carbohydrates; indeed, if you're undergoing an extended period of tapering, for example taking 3 or 4 days' complete rest before a marathon, once the initial period following your last workout has elapsed, you're better off sticking to slow-releasing carbohydrate foods.

Take home messages

- For glycogen replenishment after shorter training sessions (1-2 hours' duration), consume some quick-releasing carbohydrate immediately after training and again after 60 and 120 minutes. Follow up with some slower releasing carbohydrates.
- For glycogen replenishment after long training sessions (over 2 hours' duration), follow protocol above, but after 120 minutes, switch the emphasis mainly to low GI carbohydrates.



The Great Outdoors

**SAVE
62%**

SUBSCRIBE TODAY

**3 ISSUES
FOR JUST £5***

Save 62% on the shop price Free delivery direct to your door Never miss an issue**



3 EASY WAYS TO ORDER

1 ONLINE
kelseyshop.co.uk/tgo345

2 POST
Fill in the form and send to: The Great Outdoors magazine Subscriptions,
FREEPOST RTKZ-HYRL-CCZX, Kelsey Publishing Ltd.,
Cudham Tithe Barn, Berry's Hill, Cudham, Kent, TN16 3AG

3 CALL OUR SUBSCRIPTION TEAM
0845 872 7385 & quote offer code TGO345

Hotline open: Mon - Fri 8am - 6pm. Please note that calls are charged at your local rate, for further information please check with your service provider.

*PLEASE NOTE: 3 issues for £5 offer is a Direct Debit, UK subscription offer only. You can cancel at any time in writing in the first three months and £5 will be your only commitment. If you do NOT cancel in that time, a regular payment will continue at £23.14 still saving 20%, taken via direct debit from your bank every 6 months. **62% discount calculated on your first 3 issues.

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

The Great Outdoors

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

YOUR DETAILS

Mrs/Ms/Miss/Mr Forename
Surname
Address
.....
..... Postcode
Daytime phone Mobile
Email

DELIVERY DETAILS (if different from above)

Mrs/Ms/Miss/Mr Forename
Surname
Address
.....
..... Postcode
Daytime phone Mobile

☒ **YES! Please send me the next 3 issues of The Great Outdoors magazine for just £5.**

After 3 issues I understand that my subscription will continue at the low rate of just £23.14 every 6 months, saving 20% on the shop price – unless I write to tell you otherwise.

Instructions to your Bank or Building Society to pay by



Name of Bank
Address
..... Postcode
Account name
Sort code Account number
.....
Signature Date

Originator's Id number

8 3 7 3 8 3

Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit guarantee. I understand that this instruction may remain with Kelsey Media Ltd. and, if so, details will be passed electronically to my Bank or Building Society.

PLEASE SEND COMPLETED FORM TO:

**FREEPOST RTKZ-HYRL-CCZX, The Great Outdoors,
Kelsey Publishing Ltd., Cudham Tithe Barn,
Berry's Hill, Cudham, Kent, TN16 3AG**

Offer/prices available until 31st December 2015. Kelsey Media uses a Multi Layered Privacy Notice giving you brief details about how we would like to use your personal information. For full details visit www.kelseyshop.co.uk or call 01959 543524. If you have any questions please ask as submitting your data indicates your consent, until you choose otherwise, that we and our partners may contact you about products and services that will be of relevance to you via direct mail, phone, email and SMS. You can opt-out at ANY time via email data.controller@kelsey.co.uk or 01959 543524.

TGO345



24-Hour Food

Beer, baby food and choc chip cookies – welcome to the crazy fuelling sources of the day-night marathon runners.

Ask a dozen different runners what they'd eat over a 24-hour event and you'd get a dozen different answers for sure. But within those preferred portions, comfort snacks and energy boosters lies a formula for sustenance, stamina and success.

Here's how those who've gone before prepared their bodies for the arduous of a 24-hour race – and what they ate during and after their challenges.



MARCO CONSANI, Team GB 24-hour runner and inov-8 ambassador, team.inov-8.com

Pre race: "Before every race I always have a mug of coffee and a big bowl of porridge (1 mug of oats (100g) with 2 mugs of water/ Almond milk or milk with salt) as it can be a bit of time between breakfast and the start of the race. Some 24-hour races start at 12 noon and I find the porridge keeps me full for that time. In the week building up to a race I stick to meals I know – the porridge for breakfast, soup for lunch, chicken for dinner, nuts as snacks. The only thing I do change on the week of the build-up is that I'll drink some beetroot juice, which I stop on the Wednesday before the race.

Race snacks: "In the first eight hours I try to eat a lot more solid foods which have protein in them – chicken, tinned salmon, cheese –

once an hour during a walking break. I may supplement with a flapjack or half a Chia charge bar. Drinks-wise I will have electrolytes and water or chocolate soya milk. In the middle eight hours of the race I switch to more sweets (Jelly babies). And in the final eight hours – anything goes. I find that it's a bit of a struggle to eat and so I start to rely on gels, Coke or my favourite, Red Bull and bananas."

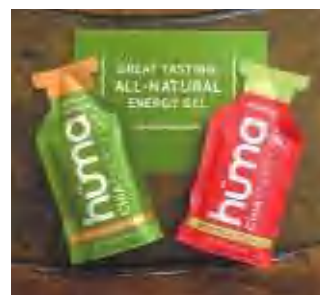
Recovery recipe: "I can feel a bit woozy after a 24-hour event and so I try to eat quite quickly after the race has finished. Lucozade Energy tablets and a Mars Milk Shake (which I love) are in my post-race recovery bag. I will also try to eat something more substantial in the hour or so afterwards, for example, some tuna pasta is good.



EMMA PALLANT, long-distance runner and Team GB triathlete. Emma will be taking part in the Windsor Triathlon (12th June 2016), humanrace.co.uk.com/triathlon

Pre-race: "In the week leading up to a 24-hour race you don't want to stray too far from the foods that you normally eat and that your body is used to," says Emma. By this point you will be in a tapering phase so will be doing less exercise as it is which means if you eat similarly to how you usually eat then this in effect will be carb loading. "Just try to keep the sugar content a bit lower and the wholesome food content higher (i.e. your fibrous fruit and veg and lean protein) so you don't feel hungry at any point in this week. On race day go big with lots of carbs but cut back on the fibre content though."

Race snacks: "These should be easily digestible, so liquid or if you can stomach it, whole food. Gels and powders are all down to personal taste, but the basics are – very low protein and fat, no fibre and mainly carbs. A lot of people work well off 60gs of carbs per hour – again snacks or liquids – drinking when thirsty (little and often), and also having a 1:1 ratio, electrolyte drink to water."



Recovery recipe: "For the proceeding 48 hours make sure you have more protein than carbs in your meals, and at least two glasses of water because dehydration has been shown to have a more detrimental effect on your body recovery post-race."



TIP Always try to consume your carbs with good fats as the fat slows carb breakdown, for example, by adding cold olive oil to the top of rice or having it with egg or avocado.



PAUL CORDEROY, ultrarunner, 2015 winner of the 118-mile Spitfire Scramble 24 and Spartathlon competitor. His is an atypical approach to day-night fuelling.

Pre-race: "I have been through times when I have tried shakes and protein snacks and so on," says Corderoy. "But I prefer a less-processed approach - fruit for breakfast, salad for lunch, an afternoon snack of fruit and nuts and then for dinner I would eat lots of vegetables, lentils and a small amount of rice. It'll be less, quantity-wise, as I'll be tapering and not burning so many calories. A difference would be that my salt intake will rise. For race-day breakfast I will have a cereal bar and fruit - a banana and an apple. I'll eat throughout a 24-hour and a pre-race meal would only affect the first two hours or so anyway."

Race snacks: "I will eat every hour or so, anything from three

chocolate chips biscuits to a handful of peanuts and Jelly beans mixed. Other snacks are an apple, a cereal bar and salty biscuits. My complete intake for the Spitfire Scramble which I won was: 100gs peanuts, 50gs of Jelly beans, 1 packet of Tuc biscuits, half a packet of chocolate chip cookies and five apples, a can of cola and one litre of black coffee."

Recovery recipe: "Immediately post-race I finish up the crap (sweets, biscuits and peanuts) that I bought and didn't eat in the race. That evening it will be my usual dinner but my portions are larger than usual for a week, as I play catch up with calories and protein lost during the event."



KATE JAYDEN, first placed female in the 2015 Spitfire Scramble 24, running 107 miles. As a vegan her nutrition plan takes on a wholly plant-based shape void of dairy, meat, eggs or fish.

Pre-race: "I tend to eat a low processed carb, high fruit/veg, high fat diet when training and in pre-race weeks. No pasta, potatoes, rice or bread products. I do however eat a lot of bananas so any carbs I get are from fruit and veg," says Kate. "As a rule of thumb I try and eat 'raw 'til 4' when I'm planning for a race, with a cooked evening meal. For example, Thai curries with lots of coconut milk, so high fat, but with no rice with it. Tofu adds extra protein - although I really don't find I need to make an extra effort as I meet all of my needs simply through what I eat. Sometimes I just love comfort food though, like soups, or stews."

Race snacks: "During runs I start by fuelling as though I was running a marathon for the first six hours or so. I use high and low GI carbs to provide balanced energy release, Isotonic drinks and baby foods. Baby foods provide carbs through fruits and also through rice - a longer burning carb source. I also

use fruits such as dates and dried strawberries/raspberries at this point."

"As time goes on I switch away from carbs to 'fat burning', at around 40 miles in, at which point I need very little fuel. I drink Coke between the electrolyte drinks and snack on dark chocolate covered fruit such as cranberries and raisins. I'll also snack on nuts as they allow instant release of energy. I eat something every lap (10km usually) and take something in my pocket. The later the race goes on the more I go by instinct, eating only when I feel the need."

Recovery recipe: "I have a beer usually before I do anything, then I just get calories in however I can, whether that's cake or crisps I take that opportunity to enjoy something more of a treat! The last couple of months I've been doing back-to-back ultras - anything from 65 miles to 107 miles - so my aim between races has been refuelling lost calories."



PERFORMANCECOACHING.ME
OUTDOOR COACHING & TRAINING PLANS & COACHING SERVICES

Monthly Coaching Packages for Triathletes, Cyclists & Runners

Bespoke training prescription set around your lifestyle and racing calendar

- Performance testing
- Goal setting and reviews
- Regular coach — athlete contact
- Heart rate training zones evaluation
- Free online training log

Performancecoaching.me was set up with the aim to offer athlete centric coaching packages and training plans around a core belief of being with you every step of the way.

Visit our website or call us for more information
 01449 616071
www.performancecoaching.me

53-12



D11, Cowdray Centre,
 Colchester, CO1 1BW
Tel: 01206 505011

**TRIATHLON
 BIKE RUN**

Find us on Facebook: 53-12

FIRE
SERVICE THREE PEAKS
 CHALLENGE

**"45th & 46th Fire
 Service Method"**

**"A" Event Sun/Mon –
 26/27th June 2016**

**"B" Event Thur/Fri –
 30 June/1st July 2016**

Ben Nevis, Scafell, Snowdon
 SUB 24 Hour TEAM Challenge
 Teams of between 4-9 walkers,
 supported by 2-3 drivers in
 one mini-bus
 £500 Team Entry (up to 12 in a team)
 Visit:
www.firefighters3peaks.co.uk

THE JOG SHOP

**EVERYTHING FOR
 THE FELLOW RUNNER**

- We are a truly independent specialist running shop - Established 30 years
- We fit the right shoe for you
- We always have bargains in store
- We now have an online store for your convenience
- We carry large stocks of all running brands
- Experienced and friendly staff

39B George Street Brighton BN2 1RJ
01273 675717
www.Jogshop.co.uk

www.runningcrazy.co.uk

**"Let your
 running
 take you
 further"**

**SHORT RUNNING
 BREAKS MADE
 EASY**

To advertise her
 please contact
Irena Cornwell,
 on
01780 749502

**SINGLE
 ISSUE ONLY
 £3.99**



READ YOUR FAVOURITE
 MAGAZINE ANYWHERE
 IN THE WORLD

**FREE OUTDOOR
 FITNESS APP AND
 SAMPLE ISSUE**

**A 13 ISSUE
 SUBSCRIPTION
 IS ONLY £27.99
 SAVING 46%**

AVAILABLE ON THE APP STORE
 AND POCKETMAGS.COM



PKTMAGS.COM/OUTDOOR FITNESS

PROPER R&R

Don't underestimate the importance of recovery if you want to get the best from your training. Without that R&R you could easily open the door to a host of issues you don't want, such as a plateau, loss of muscle mass, reduced power and performance, and potential injury risk. All of these outcomes can be avoided if you ensure you optimise your recovery!

THE KEY 3 RECOVERY ASPECTS

- The number of calories you're consuming.
 - How much sleep and the quality of the sleep you're getting.
 - How your training programme is planned (or more specifically periodised)
-

1 CALORIES

How much you eat and the type of calories you eat are key to promoting recovery. Firstly, if your calories are insufficient then the repair, growth and adaption processes in your body will happen at a drastically reduced rate.

Ask yourself these questions:

- Are you low on energy before, during and after your workouts?
- Are you frequently feeling fatigued?
- Are your workouts enjoyable and do they feel like quality sessions?
- Are you constantly thinking about food?

You're on-point if:

- You recover quickly, even after high-intensity sessions.
- You can't remember the last time you got sick, or injured.
- You feel satiated, energetic and light in all your workouts, no matter what the time of day.
- Your performance consistently improves.

If you need to make changes then it's important to find out what you're currently eating and to have an idea of the number of calories you're consuming. The best way to do this is to get yourself a calorie tracker app and just input all the food you eat over the day and at the end of the week you can see exactly how many calories you're taking in. We can use this information to see how your current food intake looks and make changes accordingly.

An example: if we take an 80kg male cyclist training four times a week for two hours a time. At the end of his tracked week it's noted that he is consuming 2,500 calories a day but he feels his recovery is not good enough.

In endurance sports we know we should be having around 1.6g/Kg bodyweight of protein (128g or 512Kcals for our 80kg man) and 0.9g/Kg bodyweight of fat (72g or 648Kcals) leaving the rest of our example's calories to come from carbs (335g or 1340Kcals).

Now, if our example cyclist is still not recovering sufficiently he can slowly increase his carb intake each week by around 40gs a time until he feels epic (using the You're on-point criteria for assessment).

Windows of opportunity There are also windows of opportunity that should be taken advantage of that increase the speed of recovery. Taking carbohydrates and some protein immediately or at least within 30 minutes of finishing a training session will maximise recovery. Note: this becomes very, very important if you are training again that day or within 8-24 hours. A great way to make use of this window is to have milk, specifically chocolate milk with its added sugars, because it has been found to be one of the best things for recovery and rehydration.

If your calories are insufficient then the repair, growth and adaption processes in your body will happen at a drastically reduced rate.



CREATINE

We've often said on the pages of this magazine that creatine is the speed and power athlete's friend, boosting the high-powered and short-lived muscular contractions required of sprinters and rugby players, for example. However, research now indicates that in the form of creatine monohydrate, the supplement can also help endurance athletes – this is because it helps aid cognitive performance and recovery. Do note that if you are an obstacle course racer or going through a phase of short recovery, anaerobic intervals, then creatine supplementation can also be of use from a training perspective

POST-TRAINING SHAKE

Ingredients

- 250-500ml chocolate milk
 - 25g whey protein
 - 1-2 frozen bananas
- 250ml choc milk and 1 banana will give you 460Kcal, of which 60gs carbs, 30gs protein, 11gs fat. Remember to take into consideration your calorie target for the day.**



2 SLEEP

Sleep is well-known as the doorway to recovery – most of the repair that needs to happen to your body takes place whilst your eyes are shut, so it's important to make sure that your kip is top-notch.

The most important part of sleep is known as Rapid Eye Movement (REM) sleep; this is when the nervous system is suppressed and is able to recover and repair (it's the deepest period of the sleep pattern). The quality of your sleep is therefore determined by how much REM you get. Sometimes drifting off can be hard or maybe you wake up frequently. Well, here are a few supplements you could take to help.

■ **Zinc and Magnesium** The minerals Zinc & Magnesium aid in muscular repair and improve recovery by extending deep sleep thus enhancing sleep quality. They also help you drift off quicker by reducing the stress hormone cortisol. These are also minerals that are lost through sweating and should be regularly replaced. Try taking either a magnesium salt bath or a ZMA (zinc, magnesium and B6) tablet at least 90 minutes prior to sleep.

■ **Tulsi Tea** is another name for Holy Basil – a herbal adaptogen which is able to naturally reduce cortisol levels in the body. Try taking it before bedtime and around the time of intense training.

■ **Vitamin C** with its cortisol and inflammatory reducing effects is also great to take alongside zinc and magnesium supplementation prior to bed.

3 PERIODISATION & TRAINING (P&T)

I'll only make brief mention of this as I'm here really to talk about food, supplements, recovery and sleep but getting P&T right is also essential to optimal performance. P&T should be based on your training goals and what you're aiming to achieve; tailored to your level (whether beginner or advanced); with the sessions you're doing rotated to make sure you're never being overworked (too much); and allow adequate time between the type of sessions you do to allow for recovery to happen.

An example: if you were training for a marathon, you wouldn't want to do a heavy series of intervals two days in a row, as the second session would likely be subpar compared to the first.

So you need to periodise and incorporate easy, medium and hard workouts and weeks into your training plan to maximise your recovery and any event performance.

RECOVERED ENOUGH!

Combine all my nutrition, rest and T&P tips and you'll undoubtedly boost your recovery and your ability to hit those important sessions sooner and harder, and thus improve your overall performance much quicker.

SAVE
52%

Running
fitness

SUBSCRIBE TODAY

3 ISSUES FOR JUST £5*

Save 52%** on the shop price **Free delivery** direct to your door **Never** miss an issue



3 EASY WAYS TO ORDER

1 ONLINE

shop.kelsey.co.uk/run345

2 POST

Fill in the form and send to: FREEPOST RTKZ-HYRL-CCZX,
Outdoor Fitness Subscriptions, Kelsey Publishing Ltd.,
Cudham Tithe Barn, Berry's Hill, Cudham, Kent, TN16 3AG

3 CALL OUR SUBSCRIPTION TEAM

0845 241 5159 & quote offer code RFRC121

Hotline open: Mon - Fri 8am - 6pm. Please note that calls are charged at your local rate, for further information please check with your service provider.

*PLEASE NOTE: 3 issues for £5 offer is a Direct Debit, UK subscription offer only. You can cancel at any time in writing in the first three months and £5 will be your only commitment. If you do NOT cancel in that time, a regular payment will continue at £36.40 still saving 20%, taken via direct debit from your bank every 12 months. **52% discount calculated on your first 3 issues.

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

Running
fitness

SUBSCRIPTION OFFER SUBSCRIPTION OFFER

YOUR DETAILS

Mrs/Ms/Miss/Mr Forename

Surname

Address

..... Postcode

Daytime phone Mobile

Email

DELIVERY DETAILS (if different from above)

Mrs/Ms/Miss/Mr Forename

Surname

Address

..... Postcode

Daytime phone Mobile

☒ **YES! Please send me the next 3 issues of Running fitness for just £5.**

After 3 issues I understand that my subscription will continue at the low rate of just £36.40 every 12 months, saving 20% on the shop price – unless I write to tell you otherwise.

Instructions to your Bank or Building Society to pay by



Name of Bank

Address

..... Postcode

Account name

Sort code Account number

.....

.....

Signature Date

Originator's Id number

.....

.....

.....

.....

.....

.....

.....

.....

.....

PLEASE SEND COMPLETED FORM TO:

FREEPOST RTKZ-HYRL-CCZX, Running fitness Subscriptions,
Kelsey Publishing Ltd., Cudham Tithe Barn, Berry's Hill,
Cudham, Kent, TN16 3AG

Offer/prices available until 31st December 2015. Kelsey Media uses a Multi Layered Privacy Notice giving you brief details about how we would like to use your personal information. For full details visit www.kelseyshop.co.uk or call 01959 543524. If you have any questions please ask as submitting your data indicates your consent, until you choose otherwise, that we and our partners may contact you about products and services that will be of relevance to you via direct mail, phone, email and SMS. You can opt-out at ANY time via email data.controller@kelsey.co.uk or 01959 543524.

RFRC121

GEAR



CONTENTS
96 **SKI KIT**
100 **RUNNING
TIGHTS**
102 **BIBTIGHTS**



F1 of long-distance shoes

Meet the no expense-spared endurance running shoe

ASICS METARUN, £200, asics.co.uk

EVER WONDERED WHAT would happen if designers were given the freedom to create the perfect long-distance running shoe with no compromise on time or cost? Well this is the answer, the Asics MetaRun, a shoe developed over three years by the head of research at Asics' Institute of Sport Science.

The brief for the MetaRun was to create a shoe that outperformed all of Asics' current footwear in all four key long-distance running qualities – fit, cushioning, stability and weight. The result is a shoe that deploys a series of new technologies,

including a midsole that is 55% lighter than standard; an exoskeleton external heel counter with memory foam lining; and a gel cushioning system that increases rearfoot cushioning by 18%. Of particular note is the patented, carbon-reinforced stability system, which flexes safely but becomes rigid if the arch of the foot rolls too much. It also helps to reduce local pressure as the runner's arch drops during a long-distance run.

Only 60,000 pairs of the MetaRun are available worldwide and the hefty price tag reflects the cutting edge technology in the shoe.

Piste perfection

If you're heading for the slopes this winter, the right pair of skis can make a huge difference to your downhill performance.



Words Steve Wells

EVERY YEAR, SPECIALIST outdoor retailer Ellis Brigham Mountain Sports takes a huge selection of new season skis to the Alps for testing and assessment by its staff. This year the team spent five days in the Austrian Tirol in April testing 81 different pairs of skis, designed for different types of skiing. Feedback from its experts leads to its Skis of the Year Awards. Here, Steve Wells, Ellis Brigham ski expert (ellis-brigham.com), reveals the skis that impressed the judges the most.

MEN

1 SALOMON X MAX WITH XT12 TI BINDINGS, £500, salomon.com/uk

The X Max won our Ski of the Year Award for Men and it really is a special ski. Precise and responsive for the stronger skiers, undemanding and easy to control for the less experienced and perfect for confident intermediates who want to start experiencing higher-performance skis. The Carve Rocker at the nose gives easy, precise steering, and a Powerline Carbon insert removes unwanted vibrations, dampening the ride when the trails get rougher. It's as close to the perfect piste ski we've seen for along time.

2 NORDICA NRGY 90, £380 (SKI ONLY), nordica.com

This won last year's Ski of the Year Award and is still an excellent ski. The NRGY 90 uses the latest shaping know-how with plenty of rocker and set back contact points. The result is impressively smooth handling in all conditions and terrain. If you're after thrilling piste skiing, this ski should definitely be on your shortlist.

3 FISCHER PROGRESSOR F17 WITH FR10 POWERRAIL, £380, fischersports.com

Sporty skiers wanting piste performance should be heading straight to this ski. The narrow waist makes it fast edge-to-edge and the dual radius side cut provides quick turns without affecting the sense of balance. This has the feeling of a race ski without any of the hassle and with an easy, fun character.



WOMEN

4 BLIZZARD BLACK PEARL, £385 (£465 WITH BINDING), blizzard-ski.com

This brilliant ski has won our Women's Ski of the Year Award again – it really is loved by the test team. The ultimate all mountain ski, it's encouraging, smooth and stable but also full of easy-to-use energy. The Flipcore rocker construction results in impeccable handling, which helps less experienced off-piste skiers feel in control, while more confident skiers take advantage of readily available power to keep pushing boundaries.

4 HEAD ABSOLUT JOY WITH JOY 9 SLR BINDINGS, £390, head.com

One of the stars at our ski test, the Absolut Joy is a stable, responsive ski with unshakeable balance on piste, a characteristic that transfers surprisingly well onto more mixed conditions. Graphene is the ski's key component and it adds strength and energy whilst reducing weight. This means the amount of camber can be reduced with no effect on the responsiveness, delivering a major improvement in the handling.

5- ATOMIC CLOUD 11 WITH XT 10 IT BINDINGS, £475, atomic.com

This runner up in our Women's Ski of the Year Award was a very pleasant surprise – in fact, lots of the guys took it out for a run to see what the fuss was about. It's a full-on performance piste ski offering fast turns and razor sharp handling. Grip, precision and response are abundant plus it's fun and easier to use than you might imagine.

JARGON BUSTER

Sidecut/Shape Sidecut refers to a ski's dimensions in mm at the widest points of its tip, waist and tail. A deep sidecut creates a ski with a small radius. Shallow sidecuts have a larger radius, giving skis improved stability for off-piste terrain. Skis with a narrower tail offer more control.

Camber Profiles Place a ski flat on the ground and its camber is the arch between tip and tail. When you stand on the ski it flattens and the pressure is spread evenly along its length, creating continuous edge contact.

Hot products for cold conditions

Here's our selection of some of the most innovative new products for skiing and boarding this winter.



1 APEX MC-3 SKI BOOTS, £650,
apexskiboats.com

These highly innovative ski boots are really two pairs in one. There's a soft, inner boot that delivers comfort and warmth, and is easy to walk in. This inner then clips into a stiff, plastic frame, which in turn clips into the ski binding. The combination of a heat mouldable liner and dual Boa system ensures a snug fit in the inner boot, while an adjustable flex arm on the outer boot allows for multiple angles of forward lean.

2 HELLY HANSEN PODIUM, £400,
shop.hellyhansen.com/gb

The sky is the limit when it comes to prices for top spec ski jackets, but we spotted this first class jacket for £280 at SportsDirect. True, that's still a lot of money, but you are getting a jacket with Primaloft insulation, good ventilation, wrist gaitors, a zip-off snow skirt and detachable hood. There's a really useful set of pockets, and most importantly the fabric has four-way stretch so you can ski freely.

3 NIKE COMMAND TRANSITIONS SNOW GOGGLES, £215.96,
freezeproshop.com

The lenses in these goggles adapt to light conditions, automatically darkening and lighting their level of tint to improve your sense of contrast and depth perception on snow. In bright sunlight the lenses are dark grey, but they become bright yellow in overcast conditions - the light transmission ranges from 33% to 80%, while providing constant 100% protection from UVA & UVB rays. The Command comes with a second, dark lens for dazzling days.

4 OSPREY KODE ABS 22+10, £120,
ospreyeurope.com

If you're taking a rucksack to the slopes you'll do well to find a more complete pack than this Kode. There are two main compartments, one for wet gear and the other for dry; a microfleece pocket for goggles; space to carry your helmet; and a neat insulated shoulder strap so water from your hydration pack doesn't freeze. There's also a zipped 10-litre expansion if you want to carry more clobber, and usefully it's ABS compatible, so if you want to upgrade to an avalanche protection system you can.



3



4



6



7



8

5 THULE SNOWPACK, £125 (UP TO TWO PAIRS),
thule.com

If you're driving to the slopes, this ski carrier will keep your skis safely and securely on the roof of your car. It can cope with thicker, modern skis and snowboards, is simple to operate even with gloves, and locks the skis to the carrier and the carrier to the car. You will need Thule roof bars as well.

6 BURTON GONDY GORE-TEX® LEATHER GLOVES, £80.00,
gb.burton.com

These stylish leather gloves are waterproof thanks to a Gore-Tex membrane, and extra warm due to new + Gore warm technology. This optimises the construction of the glove so less moisture accumulates in the insulating layer. The average skier will produce 5g of sweat per hand, per hour, and as this soaks into the glove, it reduces the insulating properties, leaving hands cold and clammy during periods of inactivity. The fingertips are touchscreen enabled, for GPS or smartphone use on the slopes.

7 SALOMON MTN LAB HELMET, £140,
salomon.com

It's as common to see skiers wearing helmets these days as it is to see cyclists with head protection, but almost all ski headwear is designed to protect the wearer from a fall. With ski touring, however, there's also the danger of rock fall, which is why Salomon has developed this specialist ski touring helmet. The MTN Lab exceeds impact safety standards for both mountaineering and alpine activities. It weighs just 330g and its part-merino wool liner dries quickly.

8 DARE2B CERTIFY PANT, £100,
dare2b.com

These bibbed ski trousers won't break the bank compared to the eye-watering prices of a lot of ski gear, but they are waterproof and breathable, and their four-way stretch allows for unimpeded skiing. Snow gaiters and cuff zips help to stop snow sneaking in around your boots.

Tight situations

Don't let the chill keep you indoors, just wrap up warm and run...



1 SALOMON ENDURANCE TIGHT, £60, salomon.com/uk

Like the Ronhills, Salomon's Endurance Tights are made with a combination of materials, but they do manage to hit the comfort and technicality sweet spot. The panels of material combine a rugged feel and compression; stretchy bits around joints and meshy bits near sweaty bits. They're just the right balance between breathability and robustness and don't stay wet for long either. Features include ankle zips, a drawcord, a sizeable zipped pocket and gel pockets. Designed for autumn and spring rather than coldest winter, these are leggings that, once on, simply make you want to get out of the door and hit the hills, even on those dark, dank mornings.

Verdict: Comfortable, breathable and robust, they simply make you want to go running.

Rating: ■■■■■■■■■■□

2 OMM FLASH TIGHT 1.0, £40, theomm.com

OMM products are made with mountain marathons primarily in mind and the Flash Tight 1.0 offers really effective breathability, thanks to strategically placed mesh panels. Flatlock seams reduce the chance of friction, while ankle grip strips prevent the legs from riding up and the four-way stretch makes them super-comfy all round. A zipped key pocket and drawcord waist also feature. These have been worn on two Spine Races and while there are warmer and more wind-resistant options around, these tights are highly comfortable, breathable and last well. Despite their lightweight feel they were fine atop the Pennines on milder winter days.

Verdict: Less warmth than some, but perfect for racing hard and excellent value.

Rating: ■■■■■■■■■■□□

3 RONHILL TRAIL CYCLONE TIGHT, £60, ronhill.com

These are the mullet of running tights: business at the front, party at the back. Windproof lamination on the front feels like softshell – and rustles like it – but offers the best weather resistance on test. At the back, in contrast, they're very stretchy and breathable. Silicon grippers on the thighs for hand placements on long climbs are a nice touch. Three pockets include a zipped one large enough for a smartphone and buff, and four gel loops. There are also ankle zips and a drawcord (though the waist is heavily elasticated anyway). Oddly though, they never felt quite comfy, with a slight sense of restricted movement, perhaps due to the more weatherproof fabric.

Verdict: A good idea and some good features, but better in theory than practice.

Rating: ■■■■■■■■■■□□□



4 X-BIONIC EFTEKTOR RUNNING POWER PANTS, £109,

x-bionic.co.uk

These pricey sci-fi Power Pants claim more “technology” than Apple, apparently prompting a 7% reduction of lactate and even 10% improved performance overall. These bold claims are verified by the State University of Verona and difficult to disprove. Compression is light and has the pleasing novelty of making you feel aware of different leg muscles. They’re decently warm while a “cooling system” effectively prevents overheating. They are very comfortable – we didn’t want to take them off. They could do with a drawcord and don’t leave much to the viewers’ imagination at the front.

Verdict: Superb for comfort, temperature control & claimed performance improvements.

Rating: ■■■■■■■■■■□□

5 THE NORTH FACE WINTER WARM TIGHTS, £75,

thenorthface.co.uk

Like the SmartWool tights, these are designed for the deepest UK winter and are instantly warm and comfortable. They feel like old-school longjohns, fleecy next to the skin with a more weather resistant outer surface, but with light compression support too. Features include a welcome “internal modesty panel”, zipped pocket, calf zips and reflective trim. Despite the breathable panels, with our increasingly mild winters they could be too warm for running for much of the year. Like the PhD Tights, these are a versatile option, ideal perhaps for bivvying or bothying.

Verdict: Great warmth, comfort and support, but possibly too warm for some.

Rating: ■■■■■■■■■■□□

6 SMARTWOOL PHD RUN TIGHTS, £74.99,

smartwool.com

These were also tested on the Spine Race, they were the perfect replacement when uber-strong winds started getting through the OMM pair. Like The North Face tights, SmartWool’s PhD Run has a soft material (in this case merino) against the skin with a more robust option (nylon/elastane) rebuffing gusts on the outside. But they’re not quite as thick, making them a more versatile option. The SmartWool’s merino content offers good warmth but doesn’t wick or dry out after a shower as quickly as others, though they do stay warm when wet. Features include a drawcord, flat-lock seams (as with all pairs on test) and good reflectivity, but no pocket.

Verdict: Fuss-free warm, comfortable and stylish tights, if lacking in features for the price.

Rating: ■■■■■■■■■■□□□

Road cycling bibtights

Beat winter's wind

1 ENDURA WINDCHILL BIBLONG (WITH PAD), £99.99, endurasport.com

The best equipped of all these bibtights to cope with foul weather, the Windchill has a windproof membrane on the front of the leg, from hip to ankle. This gives the tights a slightly stiffer feel, but it's more than worth it for the warmth in the face of an arctic blast. The backs of the legs have a more breathable fabric so it doesn't get too clammy behind the knees, and the bib element is a fine mesh to boost breathability. There's first class detailing in these tights, from reflective strips at the ankles to robust YKK zips, and even a zipped fly. The chamois pad isn't Endura's top-of-the-range model, but offers great long-distance comfort. Or, save £10 and buy the same tights without a pad.

Verdict: An excellent option for cold, windy winter days

Rating: ■■■■■■■■■■□

2 FWE COLDHARBOUR THERMAL PADDED BIB TIGHTS, £59.99, evanscycles.com

These tights may carry the lowest price tag of any on test, but their principal fabric is Roubaix thermal, found on garments that cost more than twice as much. It's soft, stretchy and warm, providing just the right level of insulation when the weather hovers between five and 10 degrees. A deep, thin ankle cuff helps a secure fit, and zipped ankles make them easy to pull on, but there's very limited reflective detailing and most of the reflective patch on the back was covered by my jacket. My only real issue was with the chamois pad, which while soft seemed to squash flat, denying me the support and padding I'd like for a long ride – I found it fine for an hour or so, but then started to wish for more.

Verdict: A very competitive price, but better worn for shorter rides

Rating: ■■■■■■■■■■□□

3 DHB ASV ROUBAIX BIB TIGHT, £80, wiggles.co.uk

At last, a pair of bibtights that doesn't make a rider look like a black tadpole – the blue flash on the thigh colour codes with other dhb kit. The Roubaix fabric extends high enough up the bib section to keep the lower back warm, before a mesh construction between the shoulders helps with breathability. The chunky ankle zips feel robust, but didn't fit comfortably inside the Lake CX145 cycling boots I wear through winter; and the soft, ridged seams weren't quite as comfy behind the knees as the flat seams of most rivals. The chamois pad is the same as the Hoy Vulpine's, and it's good to see top branded features and fabric on Wiggle's own-brand product. Even better to see the current special offer price of £60 as we went to press.

Verdict: Buy now – at £60 they're a steal

Rating: ■■■■■■■■■■□□



chill and drizzle with a new pair of bibtights.

4 MADISON SPORTIVE FJORD DWR, £74.99, madison.co.uk

Caught in a nasty squall while out riding, I was relieved to see the rain bead on the surface of these tights until the downpour became too heavy and they started to saturate. Thankfully, they dried fairly quickly, and the Roubaix fabric soon restored its warmth. There's decent reflective detailing, and the ankle grips work well – the foot hole is a tight opening with no zip. As with shoes and saddles, different styles of chamois pad suit different posteriors, and I found the own-brand Madison to be the second comfiest in test, behind only the Endura – it's a dense pad that felt ever better as the miles accumulated. My only concern is with a small abrasion appearing on the inside of the left thigh, which I wouldn't expect to see so early.

Verdict: An impressive combination of weather protection and a good pad
Rating: ■■■■■■■■□□

5 HOY VULPINE MEN'S ROUBAIX BIB TIGHTS, £109, vulpine.cc

There's an extraordinary degree of stretch in these bibtights, delivering excellent freedom of movement. This allows a design with no zips at the ankles and just gripper cuffs to keep them securely in place. It's a bit of a squeeze to push high volume feet through the holes, but the bonus is a snugger, more comfortable fit, especially if you wear winter boots. It's good to see the large reflective detail on the right calf too. The Roubaix fabric has a lovely, soft feel, and the CyTech chamois pad is the same as in the dhb bibtights, using high density foam for long distance ride comfort. Personally, I preferred the deeper pads in the Madison and Endura tights, but that's a subjective preference.

Verdict: Soft, snug and stretchy protection against winter
Rating: ■■■■■■■■□□

6 LOUIS GARNEAU PROVIDENCE CHAMOIS BIB TIGHT, £94.99, evanscycles.com

The most weatherproof bibtights on test, the Providence deploys different fabrics in different places for protection from the elements. On the front of the thighs and shins, and on the back, there's a double layer of fabric, the outer fending off wind, rain and rear wheel spray, while the inner provides insulating warmth. Elsewhere it's just a single layer of fleecy fabric for warmth, although the fabulously stretchy Polartec Light Wind Pro material at the knees deserves a mention for its wind protection and breathability without compromising pedalling action. Zips and grippers keep the ankles firmly in place, and the chamois pad does the job. At just £61.74, they're a bargain.

Verdict: Square up to winter's worst days in these bibtights
Rating: ■■■■■■■■□□



Long-term tests

The kit we've been relying on for our outdoor training and adventures.

1 INOV-8 TERRACLAW 250, £120, inov-8.com

A friend raved about Inov-8's new Terraclaw 250s and I was intrigued to test them out myself. They certainly look desirable and when worn they have a back-to-basics feel with slipper-level comfort. The drop (heel to toe differential) is 8mm, which is ideal for me as I'm trying to get away from big cushioned heels but find anything lower makes my Achilles tendons grumpy on climbs. At 250g they're lightweight and I enjoy sensing more of the surface I'm running on. A breathable, wide toe box keeps things comfortable and made me aware of how tight some of my other shoes are – though the trade-off is the Terraclaws don't feel quite so dextrous on technical terrain. The grip is really good on drier stuff, but not so great in sticky autumnal Cotswold mud, where they slide about. But, in the right conditions, I've become a big fan.

Damian Hall, contributor

2 UNDER ARMOUR SPEEDFORM FORTIS, £100, underarmour.co.uk

This is a very light, supple and comfortable shoe. The ride is extremely smooth with the sock-like fit from the upper being matched by a very slick heel to toe off transition from the midsole. The cushioning is also good. The ride is well protected and offers some spring to it; so as well as being a shoe you can crank up the pace in it'll also take some mileage. For over-pronators there is not much medial support or guidance but the shoe does feel stable. Buy half a size bigger than normal and you will have bought a good pair of shoes.

Paul Larkins, contributor

3 JEEP MAN PANTS LONG J40, £70.14, jeep-outfitter.com

It's the cotton content of these trousers that keeps me coming back to them. I know it's a rubbish fabric in the wet, but in the dry it still beats just about every synthetic fibre for comfort against the skin. These trousers (sorry, but 'pant' is too American) are a 70:30 mix of cotton and polyamide, so they do dry a bit swifter than pure cotton, and a water repellent treatment helps delay saturation. They are well tailored for hiking; narrow ankles avoiding a smear of mud up the inner legs and articulated knees offer easy movement. But the pockets are a real

let-down, the zips catching constantly and the cargo pocket spends most of its time jammed.

Jonathan Manning, contributing editor

4 AQUAPAC STORMPROOF PHONE CASE, £16, aquapac.net

At times it can be a lonely existence not having an iPhone (cue violins and sympathetic "aahs"). Not only does Apple seem to attract the best app developments, but it also has the lion's share of protective cases. For someone who hasn't joined the Steve Jobs' gang, my phone seems bereft of both app and fancy dan case options. At least this Aquapac pouch keeps it totally dry however bad the deluge, and I can use the touchscreen through the case window. After years of use it's still going strong.

Jonathan Manning, contributing editor

5 RRP REARGUARD ROAD, £8.99, extrauk.co.uk

I'll cycle through winter, grit my teeth in the face of rain and grin and bear hail, but it's the constant spray of water up my back that really gets me. It gradually seeps through my layers, dirties my jacket and bike (cleaning a bike in a cold shed at the end of a chilly ride is the absolute pits). This mudguard offers a partial solution. It's ingeniously swift to fit – a single Velcro-strap looping through saddle rails (so there's no room for a saddle bag), and it doesn't rattle like just about every other set of mudguards I've used. But the height at which it sits means it protects me rather than the bike, which still needs a clean at the end of the ride. At least my back is clean and dry as I wipe down the frame.

Jonathan Manning, contributing editor

6 CLIF BAR COCONUT CHOCOLATE CHIP, £1.59, clifbar.co.uk

Clif Bars have always for me been the most satisfying of bars, both filling and tasty, so the introduction of a new flavour is cause for celebration. The Coconut Chocolate Chip contains organic rolled oats and organic coconut pieces with dairy-free chocolate, for a gratifying snack. It's too heavy to eat while running or cycling, but perfect for long walks... or as a mid-afternoon snack before an evening training session. This new bar packs 240kcal, including 42gs of carbs, 10gs of protein and 6gs of fat.

Jonathan Manning, contributing editor







Reader challenge

Dr Paul Everden, 57, a GP from Norfolk, this year decided to take on two monumental cycling challenges within a fortnight.

"IS IT POSSIBLE to complete both the Etape du Tour and the Prudential 100 in two weeks at the age of 57?" I asked myself.

Having decided to attempt the Pru 100 with Team BLF (British Lung Foundation) I thought why not do the Etape du Tour the same year? With this crazy thought in mind I talked my cycling friend Paul Brand into making the same foolish decision.

To set the scene, Paul and I were casual, Sunday, coffee and cake road cyclists, and living in Norfolk the biggest hill I have climbed is 100m. The Etape du Tour 2015 was in another league: 142km plus four category 2 climbs (very steep and very long), and a total ascent amounting to 5,000m.

The question was how to prepare. So I thought, ask an expert. I Googled cycle coaches and came up with Dan Bennett of Progressive Cycling. He said he would take me on, and his first suggestion was to increase my cadence from 70rpm to nearer 100 and reduce my power. Training would be at least five days a week plus a set of core exercises three times a week.

During a training camp in Majorca in April Paul and I rediscovered our love of cycling, which had become jaded in the hard winter months. Over seven days we clocked up 1,000km and 8,500m of ascent, the equivalent of cycling up Everest.

My weight when I began this quest was a healthy 86kgs for my 6ft frame. By the Etape this had tumbled to 74kgs, which certainly made hills much easier.

It was still dark when we woke at 4am on the day of the event, adrenaline coursing in my veins and a massive grin creasing my face. At 6.08am we crossed the startline. All that training focused to this one moment. The views were spectacular as we zig-zagged our way up the first mountain through tiny rural villages and flower covered pastures, past trickling streams.

Our first water stop was at the foot of Col du Glandon. It was starting to get hot despite still being very early, and the gradient ramped up until I had to stand to keep the bike moving forward. Finally the arch of the Strava KOM line came into view and I knew I was going to make it. From Glandon we climbed to Croix de Fer, then

the Col du Mollard whose descent was highly technical but a definite highlight. Tiredness was forgotten as exhilaration took over.

The final climb was La Toussuire - steep, scorching, and the gradient was relentless. Three-quarters of the way up I passed riders walking and pushing their bikes due to heat exhaustion and cramps. Alongside the road others sat heads in hands, trying to regain enough strength to continue.

As I neared the top my excitement increased. The sprint to the finish along the crowd-lined barriers was an intense and emotional moment. Six months ago this would not have been remotely possible. Now here I was, with Paul, wearing a finisher's T-shirt, a very impressive medal, and a smile that would not leave my face.

Two weeks later, we were pedaling through the closed streets of early morning London, passing iconic buildings with crowds cheering us on. At the finish, Paul and I joined arms to sprint across the line. A double challenge accepted and completed, £4,000 raised for the British Lung Foundation and a milestone in both of our lives.

Kelsey Media 2016 © all rights reserved. Reproduction in whole or in part is forbidden except with permission in writing from the publishers. Note to contributors: articles submitted for consideration by the editor must be the original work of the author and not previously published. Where photographs are included, which are not the property of the contributor, permission to reproduce them must have been obtained from the owner of the copyright. The editor cannot guarantee a personal response to all letters and emails received. The views expressed in the magazine are not necessarily those of the editor or the publisher. Kelsey Media accepts no liability for products and services offered by third parties.

Kelsey Media uses a multi-layered privacy notice, giving you brief details about how we would like to use your personal information. For full details, visit www.kelsey.co.uk, or call 01959 543524.

If you have any questions, please ask as submitting your details indicates your consent, until you choose otherwise, that we and our partners may contact you about products and services that will be of relevance to you via direct mail, phone, email or SMS. You can opt out at ANY time via the email: data.controller@kelsey.co.uk or phone 01959 543524

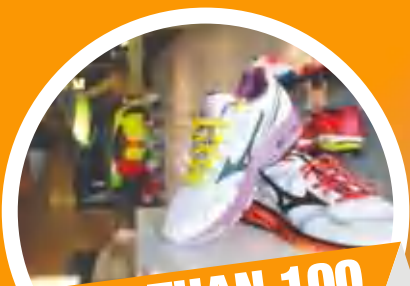
Outdoor Fitness is available for licensing worldwide. For more information, contact bruce@bruceawfordlicensing.com

ENDURANCE SHOW 2016

Sandown Park

enduranceshow.com
27TH-28TH FEB
FREE ENTRY*

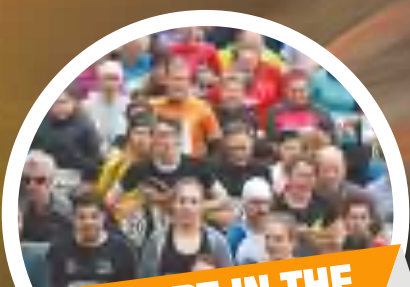
*requires registration



**MORE THAN 100
EXHIBITORS**



**ATTEND FREE
SEMINARS**



**TAKE PART IN THE
5K & 10K RUNS**

If you love endurance sport then this is the show for you. Whether you compete in running, multisport, swimming or obstacle events, the Endurance Show will provide you with a one-stop shop for all your training and racing needs.

The show will feature over 100 exhibitors displaying the latest products and services for the endurance athlete, along with three FREE seminar theatres with topics designed to help you get the best out of your 2016 season.

Take part in the Sandown Park Gallops 5K and 10K runs on Sunday 28th Feb on a traffic-free course around the historic racecourse.

Sandown Park is easily accessible by train from London Waterloo and has over 1,000 free car-parking places.

Weekend tickets are FREE to visitors who register in advance
www.enduranceshow.com

The Endurance Show is now part of Kelsey Media Group joining it's market leading brands



Triathlon PLUS

Running
fitness

Outdoor Fitness

A VERSATILE STRIP OF SAFETY.



THE STRIP DRIVE PRO REAR

The new Strip Drive Rear and Strip Drive Pro Rear are highly versatile, boasting five premium LED's with multiple, extremely visible, flash and output modes up to 100 lumens! It's unique co-molded lens/body design makes it compatible with regular seatposts and aero seat posts or frame shapes. A durable, waterproof construction provides ultimate protection in all weather conditions. The integrated USB stick makes recharging effortless. Enhanced with MOR Optics, side visibility and Mode Memory, this is the ultimate rear safety LED.

Strip Drive Front or Rear SRP £29.99 | Strip Drive Pro Rear SRP £39.99

LEZYNE™
Engineered Design